STIC Search Report
EIC 1700

STIC Database Tracking Number: 192563

TO: Ben Sackey
Location: REM 5B31
Art Unit : 1626
June 16, 2006

Case Serial Number: 10/734596

From: Kathleen Fuller
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov

Search Notes

ACCESS DB # 192563

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Mrs Fuller

Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Ben Sackey Examiner #: 73489 Date: 6/10/06

Art Unit: 1626 Phone Number: 2-0704 Serial Number: 10/734,596

Location (Bldg/Room#): REM 5B3 (Mailbox #): C 17 Results Format Preferred (circle): ~~PAPER~~, DISK

****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Process to make a conductive composition of a fluorinated Polymer

Inventors (please provide full names): Kerzhenko et al.

Earliest Priority Date: 12/13/02

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

A process to prepare a conductive fluorinated polymer composition wherein:

(a) an aqueous solution of an anilinium salt is mixed into an aqueous dispersion of a fluorinated polymer

(b) an oxidant for polymerizing the anilinium salt is added to the mixture of (a) to make a blend of fluorinated polymer and resultant doped polyaniline

(c) by-products are removed to obtain a purified blend of fluorinated polymer and doped polyaniline

(d) optionally, the purified fluorinated polymer and doped polyaniline are mixed with an acid

(e) H_2O is removed from purified fluorinated polymer and doped polyaniline to obtain a powder.

40 claims

Thanks

```
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DICTIONARY FILE UPDATES:  15 JUN 2006  HIGHEST RN 887970-41-4

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* available and contains the CA role and document type information.     *
*                                                                       *
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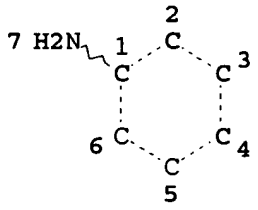


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NODE ATTRIBUTES:
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS   7

STEREO ATTRIBUTES: NONE
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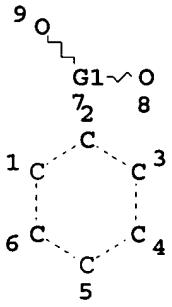

24,660 polymers from 1 and 2

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
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L14       10633 SEA FILE=REGISTRY ABB=ON  FLPO/PCT
L15       24660 SEA FILE=REGISTRY SSS FUL L8 AND L10 AND L12
L17       21544 SEA FILE=HCAPLUS ABB=ON  L15
L18        8879 SEA FILE=HCAPLUS ABB=ON  L17(L)PREP/RL
L19       82726 SEA FILE=HCAPLUS ABB=ON  L14
L20          48 SEA FILE=HCAPLUS ABB=ON  L18 AND L19
L21          10 SEA FILE=HCAPLUS ABB=ON  L20 AND CONDUCT?
L22         166 SEA FILE=HCAPLUS ABB=ON  L18 AND FLUOR?(2A)?POLYMER?
L23          16 SEA FILE=HCAPLUS ABB=ON  L22 AND CONDUCT?
L24         831 SEA FILE=HCAPLUS ABB=ON  ?ANILIN? AND FLUOR?(2A)?POLYMER?
L25         161 SEA FILE=HCAPLUS ABB=ON  L24 AND CONDUCT?
L26         132 SEA FILE=HCAPLUS ABB=ON  L25 AND POLYANILIN?
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L27          32 SEA FILE=HCAPLUS ABB=ON  L26 AND (H2O OR WATER? OR AQUEOUS?)
L28          54 SEA FILE=HCAPLUS ABB=ON  L21 OR L23 OR L27
L29          43 SEA FILE=HCAPLUS ABB=ON  L28 AND (POLYMER? OR PLASTIC?)/SC,SX
L30           9 SEA FILE=HCAPLUS ABB=ON  L29 AND COMPOSITION?
L31          21 SEA FILE=HCAPLUS ABB=ON  L29 AND FILM?
L32          23 SEA FILE=HCAPLUS ABB=ON  L30 OR L31
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=> d l32 bib abs ind hitstr 1-23

L32 ANSWER 1 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2006:439088 HCAPLUS
DN 144:469257
TI **Conductive** resin **compositions** and **conductive** gel **compositions** with good **film** formability, moldability, and processability
IN Tsukada, Yasuhiro; Furutani, Hiroyuki; Murakami, Mutsuaki; Yoshida, Tatsushi
PA Kaneka Corporation, Japan
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2006049074	A1	20060511	WO 2005-JP19772	20051027
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2006124615	A2	20060518	JP 2004-318437	20041101
JP 2006152167	A2	20060615	JP 2004-346810	20041130
PRAI JP 2004-318437	A	20041101		
JP 2004-346810	A	20041130		
JP 2005-73260	A	20050315		

AB Title compns. contain a **conductive** polymer dispersed and/or dissolved in an ionic liquid Thus, 4.02 g N-ethylimidazole was stirred in 20 mL DMF, 8.35 g Et p-toluenesulfonate was added therein and stirred for 23 h to give 1,3-diethylimidazolium p-toluenesulfonate, 10 mL of which was mixed with 0.50 g polypyrrole at 150° for 30 min, cooled to room temperature, filtered to remove undissolved polypyrrole, a filter paper soaked in the filtrate, and soaked in **water** to give a **conductive** article.
CC 38-3 (**Plastics** Fabrication and Uses)
Section cross-reference(s): 76
ST **conductive** resin **compn** gel **film** formability moldability processability; polypyrrole diethylimidazolium toluenesulfonate **compn**
IT **Conducting** polymers
Electric **conductors**
Gelation agents

Gels
Ionic liquids
(**conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT Molded plastics, uses
Polyanilines
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT Poly(arylenealkenylenes)
RL: TEM (Technical or engineered material use); USES (Uses)
(**conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT Fluoropolymers, uses
RL: MOA (Modifier or additive use); USES (Uses)
(geling agent; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT Quinones
RL: TEM (Technical or engineered material use); USES (Uses)
(polymers; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT Polyurethanes, uses
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-, geling agent; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT **Conducting** polymers
(polypyrroles; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT **Conducting** polymers
(polythiophenes; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT 30604-81-0P, Polypyrrole 51325-03-2P, Poly(1H-pyrrole-2,5-diyl) 126213-51-2P, 3,4-Ethylenedioxythiophene homopolymer 163359-60-2P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT 25233-30-1, **Polyaniline**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT 4316-42-1, N-Butylimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(**conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT 9042-77-7P, Polyethylene glycol-TDI copolymer
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(geling agent; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT 9011-17-0, Hexafluoropropylene-vinylidene **fluoride copolymer**
RL: MOA (Modifier or additive use); USES (Uses)
(geling agent; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT 63458-90-2P 321842-70-0P 321842-72-2P 328090-25-1P 634922-90-0P

839672-88-7P 839672-91-2P 886220-74-2P
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)
(ionic liquid; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT 143314-16-3 145022-44-2 174501-64-5 174501-65-6 174899-82-2 304680-35-1 839672-85-4 868850-24-2 886220-75-3
RL: NUU (Other use, unclassified); USES (Uses)
(ionic liquid; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

IT 80-40-0, Ethyl p-toluenesulfonate 80-48-8, Methyl p-toluenesulfonate 616-47-7, N-Methylimidazole 1120-71-4, Propanesultone 3058-61-5 6192-52-5, p-Toluenesulfonic acid monohydrate 7098-07-9, N-Ethylimidazole 26158-00-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant in ionic liquid preparation; **conductive** resin compns. containing ionic liquid with good **film** formability, moldability, and processability)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:671915 HCAPLUS
DN 143:176212
TI Electrolyte **composition**, solid electrolyte membrane, and its use in polymer electrolyte fuel cell
IN Nawarage, Florence Cooley
PA Fujitsu Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005200441	A2	20050728	JP 2004-5003	20040113
PRAI JP 2004-5003		20040113		

AB The **composition** contains sulfo-containing polymers having defined ether units, benzoxazole units, imide units, and/or benzothiazole units. The membrane is obtained by energy ray irradiation to and/or heat treatment of the **composition** The fuel cell uses the membrane. The membrane is scarcely deteriorated in strong acid atmospheric and shows low MeOH crossover and high proton **conductivity**

IC ICM C08G065-34
ICS C08F299-02; C08G059-00; C08G073-10; C08G073-22; C08G075-32; H01B001-06; H01M008-02; H01M008-10
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): **38**
ST sulfo polymer ether benzoxazole imide benzothiazole unit; solid electrolyte membrane polymer electrolyte fuel cell
IT Polyethers, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzobisthiazole-, sulfo-containing; sulfo-containing polymers with ether,
benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT Polyethers, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polybenzoxazole-, sulfo-containing; sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT Polysulfones, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, sulfo-containing; sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT Polybenzoxazoles
Polyimides, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, sulfo-containing; sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT Polyethers, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-, sulfo-containing; sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT Fuel cells
(polymer electrolyte; sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT Polyethers, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polysulfone-, sulfo-containing; sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT Ionic **conductors**
(protonic; sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT Fuel cell electrolytes
(sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT 861001-39-0P 861001-40-3P 861001-41-4P 861001-42-5P 861001-43-6P 861001-44-7P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT 1858-67-9P 13036-02-7P, Dimethyl 5-hydroxyisophthalate 36637-44-2P, 4-(2-Tetrahydropyranyloxy)phenyl magnesium bromide 145784-93-6P 861001-17-4P 861001-18-5P 861001-19-6P 861001-20-9P 861001-21-0P 861001-22-1P 861001-23-2P 861001-24-3P 861001-25-4P 861001-26-5P 861001-27-6P 861001-28-7P 861001-29-8P 861001-30-1P 861001-31-2P 861001-32-3P 861001-33-4P 861001-34-5P 861001-35-6P 861001-36-7P 861001-37-8P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT 861001-45-8P 861001-46-9P 861001-47-0P 861001-48-1P 861001-49-2P

861001-50-5P 861001-51-6P 861001-52-7P 861001-53-8P 861001-54-9P
861001-55-0P 861001-56-1P **861001-57-2P 861001-58-3P**
861001-59-4P **861001-60-7P 861001-61-8P**
861001-62-9DP, compds. with epichlorohydrin, polymers with
bisphenol A diglycidyl ether **861001-63-0DP**, compds. with
epichlorohydrin, polymers with bisphenol A diglycidyl ether
861001-63-0P 861001-65-2P 861001-66-3P
861001-67-4P **861001-68-5P** 861001-69-6P **861001-70-9DP**
, compds. with epichlorohydrin, polymers with bisphenol A diglycidyl ether
861001-71-0P 861001-72-1P **861001-73-2P** 861001-74-3P
861001-76-5P 861001-78-7P **861001-79-8DP**, compds. with
epichlorohydrin, polymers with bisphenol A diglycidyl ether
861001-81-2DP, compds. with epichlorohydrin, polymers with
bisphenol A diglycidyl ether
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT 106-44-5, p-Cresol, reactions 108-77-0, Cyanuric chloride 124-73-2, 1,2-Dibromotetrafluoroethane 349-88-2, 4-Fluorobenzenesulfonyl chloride 350-46-9, 4-**Fluoronitrobenzene** 352-34-1, 4-**Fluoroiodobenzene** 375-50-8, 1,4-Diiodoperfluorobutane 500-99-2, 3,5-Dimethoxyphenol 618-83-7, 5-Hydroxyisophthalic acid 917-54-4, Methyllithium 999-97-3, Hexamethyldisilazane 1194-02-1, 4-**Fluorobenzonitrile** 2039-82-9, 4-Bromostyrene 7446-09-5, Sulfur dioxide, reactions 108534-47-0, 4-tert-Butyldimethylsilyloxyphenol 861001-38-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfo-containing **polymers** with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

IT **861001-57-2P 861001-58-3P 861001-60-7P**
861001-61-8P 861001-62-9DP, compds. with
epichlorohydrin, polymers with bisphenol A diglycidyl ether
861001-63-0DP, compds. with epichlorohydrin, polymers with
bisphenol A diglycidyl ether **861001-63-0P 861001-65-2P**
861001-66-3P 861001-68-5P 861001-70-9DP,
compds. with epichlorohydrin, polymers with bisphenol A diglycidyl ether
861001-71-0P 861001-73-2P 861001-79-8DP,
compds. with epichlorohydrin, polymers with bisphenol A diglycidyl ether
861001-81-2DP, compds. with epichlorohydrin, polymers with
bisphenol A diglycidyl ether
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(sulfo-containing polymers with ether, benzoxazole, imide, and/or benzothiazole units for solid electrolyte membrane in polymer electrolyte fuel cell)

RN 861001-57-2 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, 5-(4-sulfophenoxy)-, tripotassium salt, polymer with 1,4-benzenedicarboxylic acid and 3,3'-diamino[1,1'-biphenyl]-4,4'-diol (9CI) (CA INDEX NAME)

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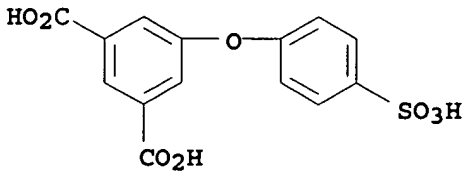
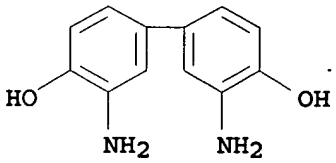
CRN 861001-21-0
CMF C14 H10 O8 S . 3 K



●3 K

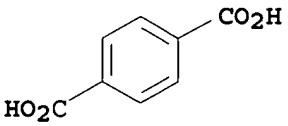
CM 2

CRN 4194-40-5
CMF C12 H12 N2 O2



CM 3

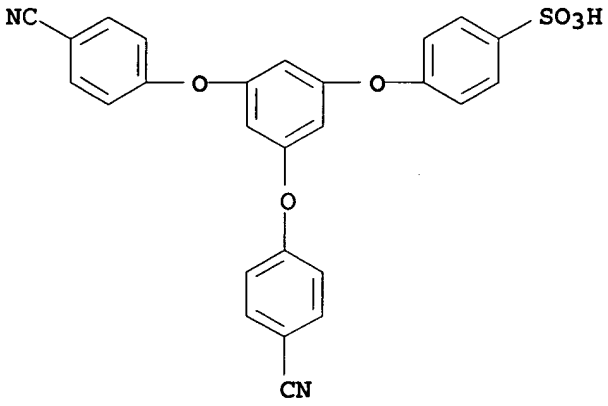
CRN 100-21-0
CMF C8 H6 O4



RN 861001-58-3 HCAPLUS
CN Benzenesulfonic acid, 4-[3,5-bis(4-cyanophenoxy)phenoxy]-, monopotassium salt, polymer with 3,3'-diamino[1,1'-biphenyl]-4,4'-diol (9CI) (CA INDEX NAME)

CM 1

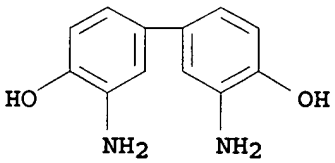
CRN 861001-22-1
CMF C26 H16 N2 O6 S . K



● K

CM 2

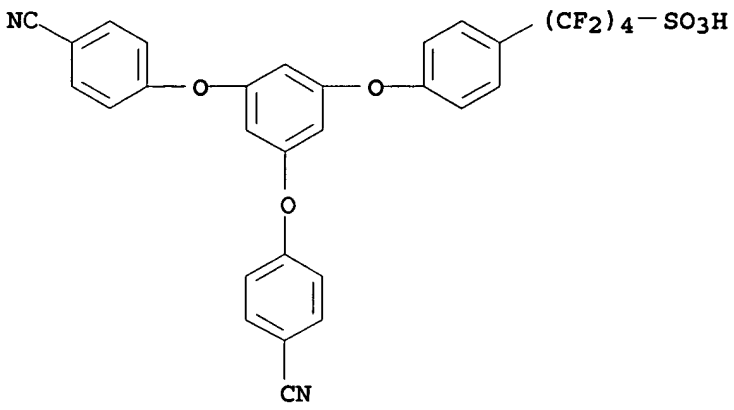
CRN 4194-40-5
CMF C12 H12 N2 O2



RN 861001-60-7 HCAPLUS
CN 1,4-Benzenedicarboxylic acid, polymer with 4-[3,5-bis(4-cyanophenoxy)phenoxy]-α,α,β,β,γ,γ,.delta.,δ-octafluorobenzenebutanesulfonic acid monopotassium salt and 4,4'-diamino[1,1'-biphenyl]-3,3'-diol (9CI) (CA INDEX NAME)

CM 1

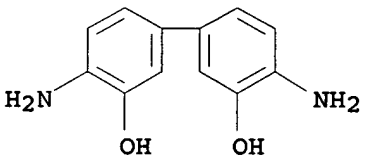
CRN 861001-30-1
CMF C30 H16 F8 N2 O6 S . K



● K

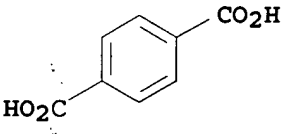
CM 2

CRN 2373-98-0
CMF C12 H12 N2 O2



CM 3

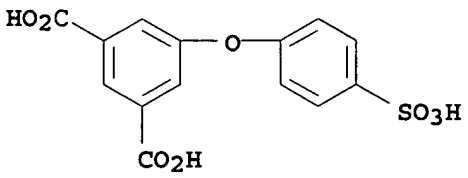
CRN 100-21-0
CMF C8 H6 O4



RN 861001-61-8 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, 5-hydroxy-, polymer with 3,3'-diamino[1,1'-biphenyl]-4,4'-diol, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and 5-(4-sulfophenoxy)-1,3-benzenedicarboxylic acid tripotassium salt (9CI) (CA INDEX NAME)

CM 1

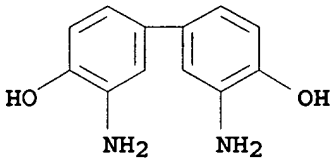
CRN 861001-21-0
CMF C14 H10 O8 S . 3 K



●3 K

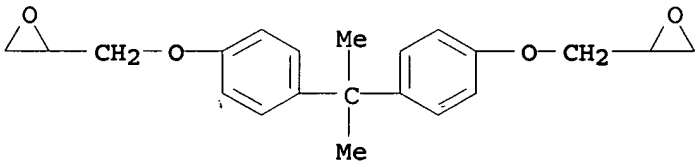
CM 2

CRN 4194-40-5
CMF C12 H12 N2 O2



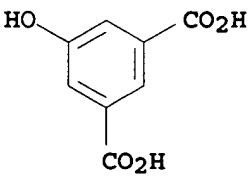
CM 3

CRN 1675-54-3
CMF C21 H24 O4



CM 4

CRN 618-83-7
CMF C8 H6 O5

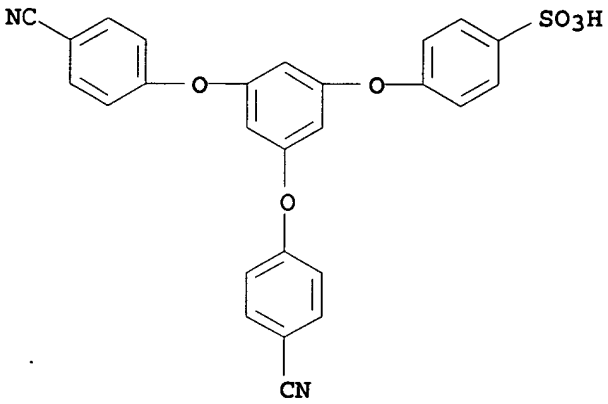


RN 861001-62-9 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, 5-hydroxy-, polymer with 4-[3,5-bis(4-cyanophenoxy)phenoxy]benzenesulfonic acid monopotassium salt and 3,3'-diamino[1,1'-biphenyl]-4,4'-diol (9CI) (CA INDEX NAME)

CM 1

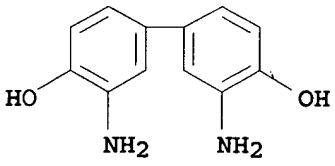
CRN 861001-22-1
CMF C26 H16 N2 O6 S . K



● K

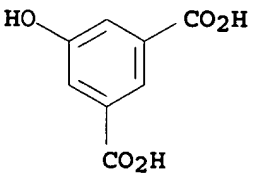
CM 2

CRN 4194-40-5
CMF C12 H12 N2 O2



CM 3

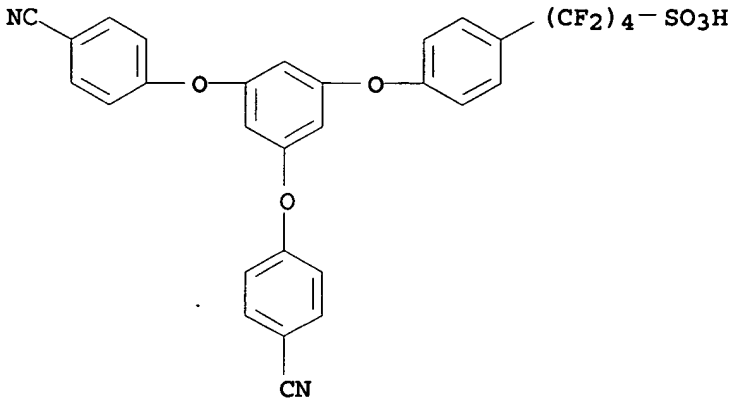
CRN 618-83-7
CMF C8 H6 O5



RN 861001-63-0 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, 5-hydroxy-, polymer with 4-[3,5-bis(4-cyanophenoxy)phenoxy]-α,α,β,β,γ,. gamma.,δ,δ-octafluorobenzenebutanesulfonic acid monopotassium salt and 3,3'-diamino[1,1'-biphenyl]-4,4'-diol (9CI) (CA INDEX NAME)

CM 1

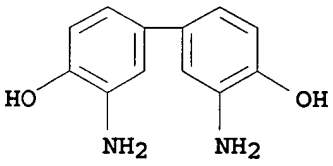
CRN 861001-30-1
CMF C30 H16 F8 N2 O6 S . K



● K

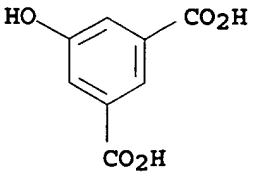
CM 2

CRN 4194-40-5
CMF C12 H12 N2 O2



CM 3

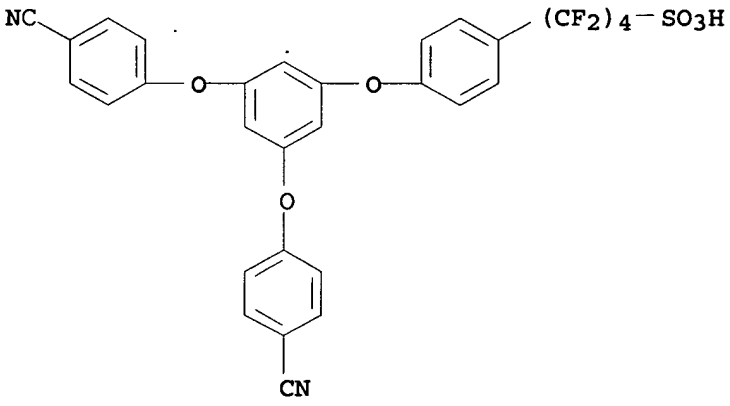
CRN 618-83-7
CMF C8 H6 O5



RN 861001-63-0 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, 5-hydroxy-, polymer with 4-[3,5-bis(4-cyanophenoxy)phenoxy]-α,α,β,β,γ,. gamma.,δ,δ-octafluorobenzenebutanesulfonic acid monopotassium salt and 3,3'-diamino[1,1'-biphenyl]-4,4'-diol (9CI) (CA INDEX NAME)

CM 1

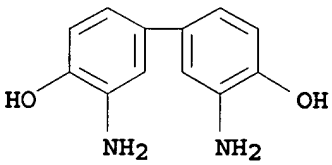
CRN 861001-30-1
CMF C30 H16 F8 N2 O6 S . K



● K

CM 2

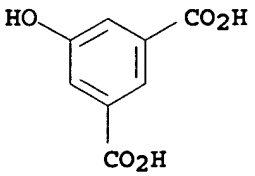
CRN 4194-40-5
CMF C12 H12 N2 O2



CM 3

CRN 618-83-7

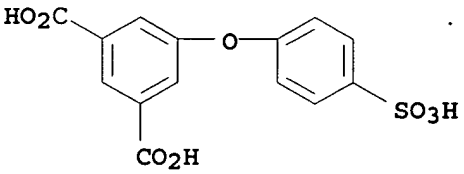
CMF C8 H6 O5



RN 861001-65-2 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, 5-(4-sulfophenoxy)-, tripotassium salt, polymer with 1,4-benzenedicarboxylic acid and 3,3'-diamino[1,1'-biphenyl]-4,4'-dithiol (9CI) (CA INDEX NAME)

CM 1

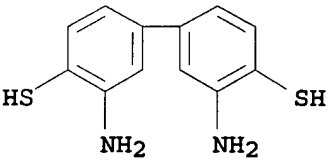
CRN 861001-21-0
CMF C14 H10 O8 S . 3 K



●3 K

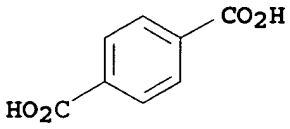
CM 2

CRN 51818-67-8
CMF C12 H12 N2 S2



CM 3

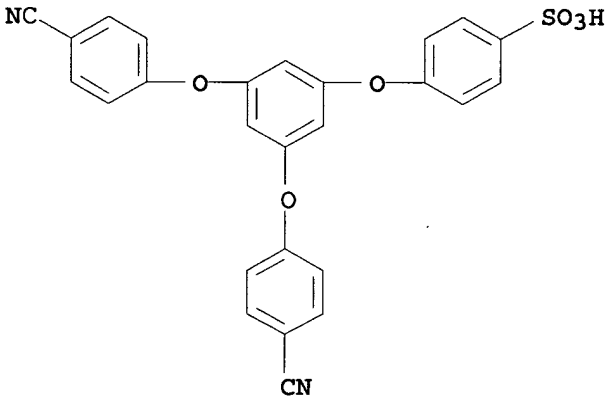
CRN 100-21-0
CMF C8 H6 O4



RN 861001-66-3 HCAPLUS
CN Benzenesulfonic acid, 4-[3,5-bis(4-cyanophenoxy)phenoxy]-, monopotassium salt, polymer with 3,3'-diamino[1,1'-biphenyl]-4,4'-dithiol (9CI) (CA INDEX NAME)

CM 1

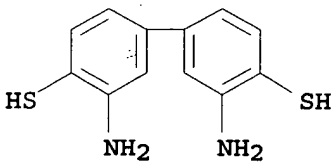
CRN 861001-22-1
CMF C26 H16 N2 O6 S . K



● K

CM 2

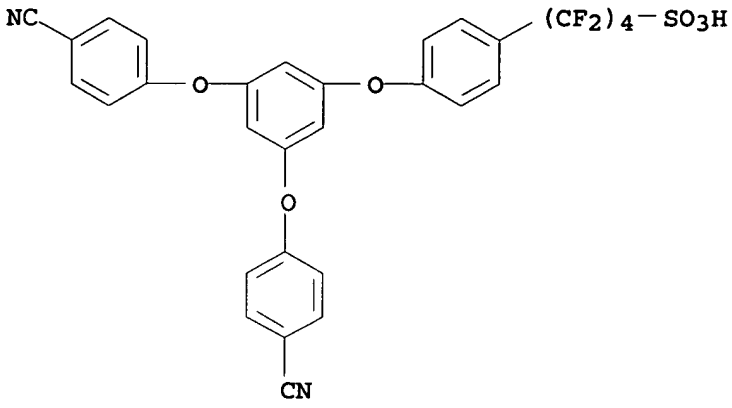
CRN 51818-67-8
CMF C12 H12 N2 S2



RN 861001-68-5 HCAPLUS
CN Benzenebutanesulfonic acid, 4-[3,5-bis(4-cyanophenoxy)phenoxy]-α,α,β,β,γ,γ,δ,δ-octafluoro-, monopotassium salt, polymer with 3,3'-diamino[1,1'-biphenyl]-4,4'-dithiol (9CI) (CA INDEX NAME)

CM 1

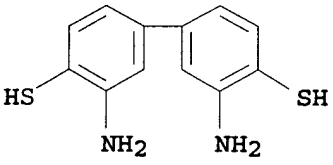
CRN 861001-30-1
CMF C30 H16 F8 N2 O6 S . K



● K

CM 2

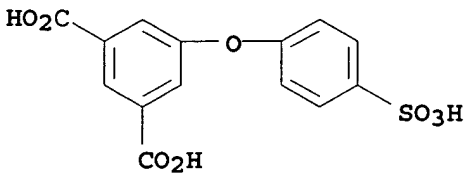
CRN 51818-67-8
CMF C12 H12 N2 S2



RN 861001-70-9 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, 5-hydroxy-, polymer with 3,3'-diamino[1,1'-biphenyl]-4,4'-diol and 5-(4-sulfophenoxy)-1,3-benzenedicarboxylic acid tripotassium salt (9CI) (CA INDEX NAME)

CM 1

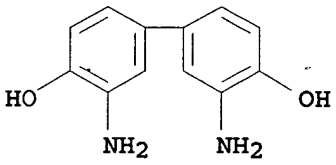
CRN 861001-21-0
CMF C14 H10 O8 S . 3 K



●3 K

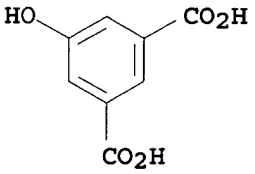
CM 2

CRN 4194-40-5
CMF C12 H12 N2 O2



CM 3

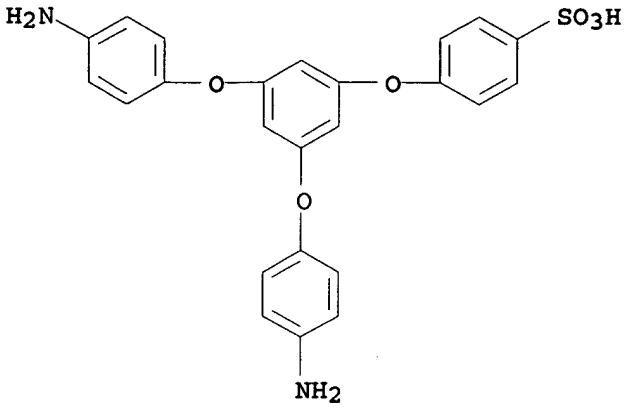
CRN 618-83-7
CMF C8 H6 O5



RN 861001-71-0 HCAPLUS
CN Benzenesulfonic acid, 4-[3,5-bis(4-aminophenoxy)phenoxy]-, monopotassium salt, polymer with [2]benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone (9CI) (CA INDEX NAME)

CM 1

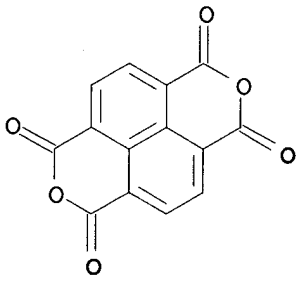
CRN 861001-24-3
CMF C24 H20 N2 O6 S . K



● K

CM 2

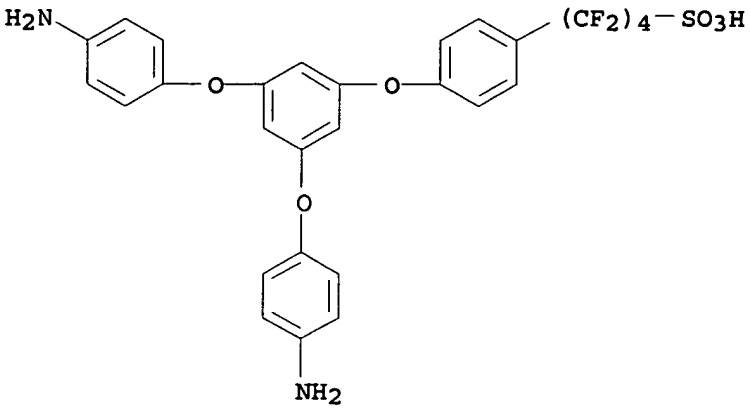
CRN 81-30-1
CMF C14 H4 O6



RN 861001-73-2 HCAPLUS
CN Benzenebutanesulfonic acid, 4-[3,5-bis(4-aminophenoxy)phenoxy]-α,α,β,β,γ,γ,δ,δ-octafluoro-, monoammonium salt, polymer with [2]benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone (9CI) (CA INDEX NAME)

CM 1

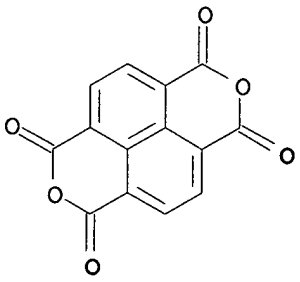
CRN 861001-32-3
CMF C28 H20 F8 N2 O6 S . H3 N



● NH_3

CM 2

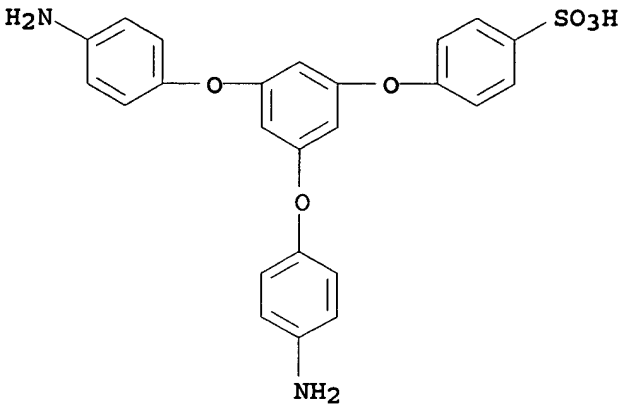
CRN 81-30-1
CMF C14 H4 O6



RN 861001-79-8 HCAPLUS
CN Benzenesulfonic acid, 4-[3,5-bis(4-aminophenoxy)phenoxy]-, monopotassium salt, polymer with [2]benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone and 3,3'-diamino[1,1'-biphenyl]-4,4'-diol (9CI) (CA INDEX NAME)

CM 1

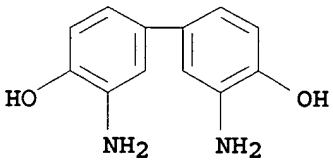
CRN 861001-24-3
CMF C24 H20 N2 O6 S . K



● K

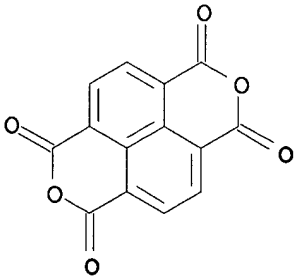
CM 2

CRN 4194-40-5
CMF C12 H12 N2 O2



CM 3

CRN 81-30-1
CMF C14 H4 O6

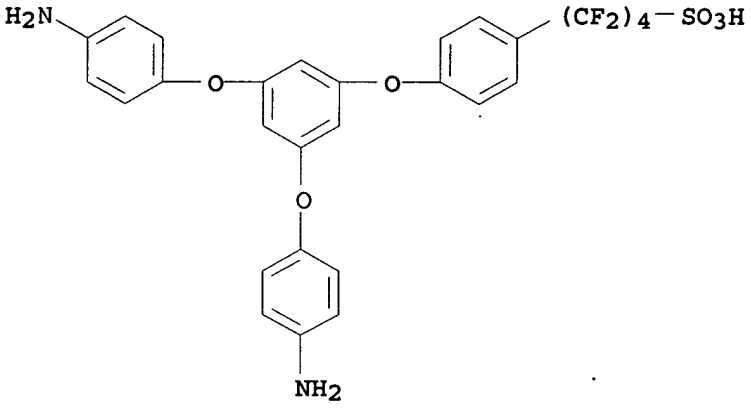


RN 861001-81-2 HCAPLUS
CN Benzenebutanesulfonic acid, 4-[3,5-bis(4-aminophenoxy)phenoxy]-α,α,β,β,γ,γ,δ,δ-octafluoro-, monopotassium salt, polymer with [2]benzopyrano[6,5,4-def][2]benzopyran-

1,3,6,8-tetrone and 3,3'-diamino[1,1'-biphenyl]-4,4'-diol (9CI) (CA INDEX NAME)

CM 1

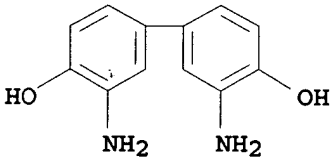
CRN 861001-80-1
CMF C28 H20 F8 N2 O6 S . K



● K

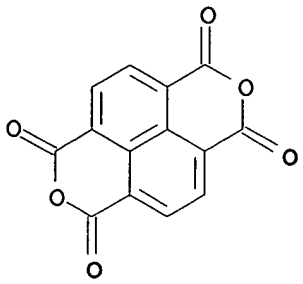
CM 2

CRN 4194-40-5
CMF C12 H12 N2 O2



CM 3

CRN 81-30-1
CMF C14 H4 O6



L32 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:179359 HCAPLUS
DN 142:269523
TI Plastic substrates and their electroconductive laminates for display devices, solar cells, and touch panels
IN Kuma, Takuya; Moriyama, Hideki; Tsukuda, Akimitsu; Kitajima, Hodaka
PA Toray Industries, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005054173	A2	20050303	JP 2004-208193	20040715
PRAI	JP 2003-198963	A	20030718		

AB The plastic substrates show Tg ≥260° and <600°, light transmittance at 400 nm 60-100%, total light transmittance at 450-700 nm 80-100%, and pencil hardness ≥H. The **films** show good mech. properties and bending crack resistance.
IC ICM C08J005-18
ICS B32B007-02; B32B027-34; H05K001-03; C23C014-08; C08L077-10
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): **38**, 52, 76
ST arom polyamide substrate electroconductive laminate; liq crystal display solar cell touch panel; aminophenyl fluorene terephthaloyl chloride polyamide substrate
IT Liquid crystal displays
Optical imaging devices
Solar cells
(aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)
IT Laminated plastics, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)
IT Polyamides, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cardo; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)
IT Transparent **films**
(elec. **conductive**; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch

panels)

IT Electric **conductors**
(**films**, transparent; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT Polyamides, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine-containing, cardo; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT Polyamides, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine-containing; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT Fluoropolymers, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-, cardo; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT Fluoropolymers, preparation
Polysulfones, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT Cardo **polymers**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamides, **fluorine**-containing; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT Cardo polymers
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamides; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT Polyamides, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polysulfone-; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT Electric switches
(touch panels; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT 26285-32-5P 29931-02-0P, 9,9-Bis(4-aminophenyl)**fluorene**-terephthaloyl dichloride **copolymer** 37372-31-9P 65681-31-4P, 9,9-(4-Aminophenyl)fluorene-isophthaloyl chloride-terephthaloyl chloride copolymer 65722-41-0P 96194-37-5P 96194-42-2P **99634-81-8P**, 3,3'-Diaminodiphenyl sulfone-4,4'-diaminodiphenyl sulfone-terephthaloyl chloride copolymer 686777-58-2P 686777-69-5P 688046-12-0P 845816-35-5P 845816-36-6P 846603-87-0P 846603-91-6P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

IT 50926-11-9, ITO
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(electroconductive layer; aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

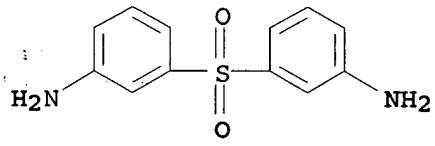
IT **99634-81-8P**, 3,3'-Diaminodiphenyl sulfone-4,4'-diaminodiphenyl sulfone-terephthaloyl chloride copolymer
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(aromatic polyamide substrates and their electroconductive laminates for display devices, solar cells, and touch panels)

RN 99634-81-8 HCAPLUS

CN 1,4-Benzenedicarbonyl dichloride, polymer with 3,3'-sulfonylbis[benzenamine] and 4,4'-sulfonylbis[benzenamine] (9CI) (CA INDEX NAME)

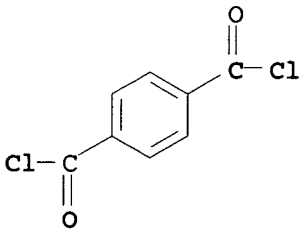
CM 1

CRN 599-61-1
CMF C12 H12 N2 O2 S



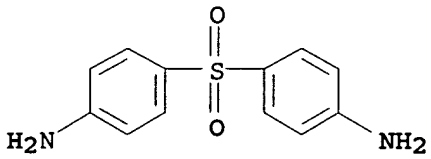
CM 2

CRN 100-20-9
CMF C8 H4 Cl2 O2



CM 3

CRN 80-08-0
CMF C12 H12 N2 O2 S



L32 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:14475 HCAPLUS
DN 142:117631
TI Polymer **composition** for encapsulation of electrode particles
IN Gozdz, Antoni S.; Loxley, Andrew L.; Pullen, Anthony E.
PA A123 Systems, Inc., USA
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005000956	A2	20050106	WO 2004-US20393	20040623
	WO 2005000956	A3	20051110		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2005034993	A1	20050217	US 2004-876179	20040623
PRAI	US 2003-480535P	P	20030623		

AB Compns. and methods are provided for coating electroactive particles. Coating materials include a **conductive** component and a low refractive index component. Coatings are provided in which the **conductive** and low refractive index components are linked and/or do not form phases having length scales .gtorsim.0.25 μm. Coatings are provided in which the components are contained in sequential layers.

IC ICM C08L
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 42, 76
ST encapsulation electrode particle low refractive index **conductive** polymer; electropolymn radical polymn poly thiophene acrylic **fluoroalkyl conductive polymer**; electrochem cell encapsulated electrode oxide polymd polythiophene acrylic graft
IT Polymers, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(block, encapsulating polymer; polymer **composition** for encapsulation of electrode particles)
IT Electric current
(collector, coated; polymer **composition** for encapsulation of electrode particles)
IT Bond

(covalent, between coating components; polymer **composition** for encapsulation of electrode particles)
IT Phase separation
(domain size ≤0.25 μm; polymer **composition** for encapsulation of electrode particles)
IT Electric apparatus
Polymerization
(electrochem.; polymer **composition** for encapsulation of electrode particles)
IT Polyacetylenes, uses
Polyanilines
Polyphenyls
RL: TEM (Technical or engineered material use); USES (Uses)
(encapsulating polymer; polymer **composition** for encapsulation of electrode particles)
IT Electrodes
(encapsulation of particulate materials for; polymer **composition** for encapsulation of electrode particles)
IT **Fluoropolymers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(**fluoroalkyl** and **fluoroaryl** groups; **polymer composition** for encapsulation of electrode particles)
IT Ethers, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(fluoroalkyl, ethers with hydroxythiophenes; polymer **composition** for encapsulation of electrode particles)
IT Polymers, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(graft, encapsulating polymer; polymer **composition** for encapsulation of electrode particles)
IT Bond
(ionic, between coating components; polymer **composition** for encapsulation of electrode particles)
IT **Films**
(multilayer; polymer **composition** for encapsulation of electrode particles)
IT Refractive index
(of coating polymer; polymer **composition** for encapsulation of electrode particles)
IT Electric **conductivity**
(of polymers and encapsulated oxides; polymer **composition** for encapsulation of electrode particles)
IT Polymerization
(oxidative coupling; polymer **composition** for encapsulation of electrode particles)
IT Anodes
Cathodes
Coating materials
Conducting polymers
Electrolytes
Encapsulation
Etherification
Fluorination
Oxidizing agents
Solvents

(**polymer composition** for encapsulation of electrode particles)

IT Acrylic polymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer **composition** for encapsulation of electrode particles)

IT **Conducting** polymers
(polypyrroles, encapsulating polymer, alkyl, ether, thioether, ester, thioester, amine, amide, and benzyl derivs.; polymer **composition** for encapsulation of electrode particles)

IT **Conducting** polymers
(polythiophenes, encapsulating polymers, alkyl, ether, thioether, alkylenedioxy-, ester, thioester, amine, amide, and benzyl derivs.; polymer **composition** for encapsulation of electrode particles)

IT Force
(repulsive, of polymers to MCMBs; polymer **composition** for encapsulation of electrode particles)

IT Coating process
(spray; polymer **composition** for encapsulation of electrode particles)

IT Glass substrates
(substrate for electrode for electropolymn.; polymer **composition** for encapsulation of electrode particles)

IT Polymerization
(vapor-deposition; polymer **composition** for encapsulation of electrode particles)

IT 627528-57-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(EDOT-F monomer; polymer **composition** for encapsulation of electrode particles)

IT 7440-44-0, Carbon, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(MCMB; polymer **composition** for encapsulation of electrode particles)

IT 820958-17-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(PrODOT-F monomer; polymer **composition** for encapsulation of electrode particles)

IT 52627-24-4, Lithium cobalt oxide 162684-16-4, Lithium manganese nickel oxide
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(electrode material, encapsulation of; polymer **composition** for encapsulation of electrode particles)

IT 820958-24-5P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(oxide encapsulant **film**; polymer **composition** for encapsulation of electrode particles)

IT 7646-69-7, Sodium hydride 7681-65-4, Copper iodide (CuI) 7705-08-0, Ferric chloride, uses 7727-54-0, Ammonium persulfate 10421-48-4, Ferric nitrate 13537-24-1, Ferric perchlorate
RL: CAT (Catalyst use); USES (Uses)
(polymer **composition** for encapsulation of electrode particles)

IT 312619-41-3
RL: CAT (Catalyst use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(polymer **composition** for encapsulation of electrode particles)
IT 7440-47-3, Chromium, uses 7440-57-5, Gold, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(polymer **composition** for encapsulation of electrode particles)
IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-64-1, Acetone, uses 67-66-3, Chloroform, uses 75-05-8, Acetonitrile, uses 75-09-2, Methylene chloride, uses 141-78-6, Ethyl acetate, uses 7732-18-5, **Water**, uses
RL: NUU (Other use, unclassified); USES (Uses)
(polymer **composition** for encapsulation of electrode particles)
IT 28825-23-2, Poly(hexafluoroisopropylmethacrylate) 104934-51-2, Poly(3-octylthiophene)
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); PROC (Process); USES (Uses)
(polymer **composition** for encapsulation of electrode particles)
IT 142214-55-9P 153634-17-4P 627528-58-9P 820958-20-1P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PUR (Purification or recovery); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(polymer **composition** for encapsulation of electrode particles)
IT 820958-29-0P
RL: PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(polymer **composition** for encapsulation of electrode particles)
IT 155090-83-8, Baytron P
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(polymer **composition** for encapsulation of electrode particles)
IT 155090-83-8DP, Baytron P, **fluorinated**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**polymer composition** for encapsulation of electrode particles)
IT 307-30-2 872-31-1, 3-Bromothiophene 920-46-7, Methacryloyl chloride 7782-41-4, **Fluorine**, reactions 13781-67-4, 3-Thiopheneethanol 820958-26-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(**polymer composition** for encapsulation of electrode particles)
IT 142214-54-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(polymer **composition** for encapsulation of electrode particles)
IT 153634-15-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(polymer **composition** for encapsulation of electrode particles)
IT 9002-84-0, Polytetrafluoroethylene 9003-53-6, Polystyrene
RL: TEM (Technical or engineered material use); USES (Uses)
(polymer **composition** for encapsulation of electrode particles)

L32 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:533195 HCAPLUS
DN 141:79294
TI Semiconductor **compositions** and electrophotographic apparatus parts using them with excellent heat, moisture, and voltage resistance
IN Yoshikawa, Hitoshi; Iinuma, Sumio
PA Tokai Rubber Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 35 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004184513	A2	20040702	JP 2002-348351	20021129
PRAI	JP 2002-348351		20021129		

OS MARPAT 141:79294

AB The compns., development rolls for electrophotog., contain elec. **conductive** polymers (A) having surfactant structures (sulfonic acid group-containing naphthalene or anthracene structures, preferably) and showing solubility to PhMe or Me Et ketone ≥20% and solubility to **water** <3% and binder polymers (B), thus improving compatibility of them.

IC ICM G03G015-08
ICS C08L101-00; F16C013-00; G03G015-02; G03G015-16; H01B001-20

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): **38**, 76

ST elec **conductor** polymer soly moisture resistance; sulfonic surfactant **polyaniline** polyester blend compatibility; electrophotog development roll semiconductor heat resistance

IT Acrylic rubber
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(Denka ER 7300T, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Urethane rubber, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(Elastollan 1040, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Butadiene rubber, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(JSR-BR 1220NM, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Fluoropolymers, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(acrylic, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Epichlorohydrin rubber
Synthetic rubber, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(allyl glycidyl ether-epichlorohydrin-ethylene oxide, Epichlormer CG, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Epoxy resins, uses
Polyureas
Thermoplastic rubber
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for

electrophotog. apparatus)

IT Surfactants
(**conductive** polymers; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT **Films**
(elec. **conductive**; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT EPDM rubber
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(ethylene-ethylidenenorbornene-propene, Esprene 505, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Electric **conductors**
(**films**; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Acrylic **polymers**, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(**fluorine**-containing, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Nitrile rubber, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(hydrogenated, Zetpol 0020, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Polyimides, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(polyamide-, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Polyamides, uses
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(polyimide-, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT **Conducting** polymers
(polypyrroles, sulfonic group-containing; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT **Conducting** polymers
(polythiophenes, sulfonic group-containing; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT Electrophotographic apparatus
(rollers; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT **Conducting** polymers
Semiconductor materials
(semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog.

apparatus)

IT Polymer blends
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT **Polyanilines**
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(sulfonic group-containing, **conductive** polymer; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT 220669-44-3P
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT 9011-14-7, LG 6A 434322-68-6, Defensa TR 230K 577796-28-2, Vylomax HR 16NN
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT 9003-17-2
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(butadiene rubber, JSR-BR 1220NM, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT 62-53-3DP, **Aniline**, polymers with sulfonic acid group-containing surfactant 109-97-7DP, Pyrrole, polymers with dinonylnaphthalenesulfonic acid 110-02-1DP, Thiophene, polymers with dinonylnaphthalenesulfonic acid 22582-76-9DP, 9-Anthracenesulfonic acid, polymers with **aniline** 25322-17-2DP, Dinonylnaphthalenesulfonic acid, polymers with **aniline** 189376-87-2DP, 2,2'-Dinaphthylmethane-6,6'-disulfonic acid monosodium salt, polymers with **aniline** 712272-86-1DP, polymers with **aniline**
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**conductive** polymer; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT 175834-23-8, Burnock DB 980K
RL: DEV (Device component use); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(crosslinking agent; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT 9003-18-3
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, hydrogenated, Zetpol 0020, binder; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

IT 11109-50-5, SUS 304
RL: DEV (Device component use); USES (Uses)
(roll core; semiconductor compns. containing **conductive** surfactant polymers with good heat, moisture, and voltage resistance for electrophotog. apparatus)

L32 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:485827 HCAPLUS
DN 141:24577
TI **Conductive composition** of a **fluorinated polymer** which contains **polyaniline**, manufacturing process, and **conductive films**
IN Korzhenko, Alexander; Pud, Alexander; Shapoval, Galina
PA Atofina, Fr.
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1428857	A1	20040616	EP 2002-293103	20021213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2004197095	A2	20040715	JP 2003-417111	20031215
	US 2004181011	A1	20040916	US 2003-734596	20031215
PRAI	EP 2002-293103	A	20021213		
	US 2002-435256P	P	20021223		

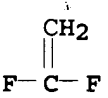
OS MARPAT 141:24577
AB The process involves mixing (a) an **aqueous** solution of an **anilinium** salt with an **aqueous** dispersion of a **fluorinated polymer**, (b) then an oxidant is added to the mixture of step (a) to make a blend of the **fluorinated polymer** and doped **polyaniline** (PANI), (c) byproducts and unreacted **aniline** are removed by washing with **H2O** or an alc. to get a blend of purified **fluorinated polymer** and doped PANI, (d) eventually the purified **fluorinated polymer** and doped PANI of step (c) can be mixed with an acid, (e) **H2O** is removed from the purified **fluorinated polymer** and doped PANI of step (c) or (d) if any and the remaining powder is melted and shaped into **films**, pellets or any object. The ultimate dry powder green composite produced from 2 wt% PANI x p-toluenesulfonic acid and 98 wt% PVDF is used for melt compression at 180° to produce a dark green **film** with **conductivity** 8 + 10-8 S/cm.
IC ICM C08L079-02
ICS C08L027-12; C08L027-16; C08L027-18; C08L027-20; H01B001-12
CC 37-6 (**Plastics** Manufacture and Processing)
ST **polyaniline** tosylate blend PVDF **conductive film**
IT Fluoropolymers, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Kynar 9000; **conductive** composite of a **fluorinated polymer** which contains doped **polyaniline** for melt processable powder)
IT **Polyanilines**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(**conductive** composite of a **fluorinated polymer** which contains doped **polyaniline** for melt

applicant

processable powder)
IT Fluoropolymers, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(**conductive** composite of a **fluorinated** **polymer** which contains doped **polyaniline** for melt processable powder)
IT **Films**
(elec. **conductive**; **conductive** composite of a **fluorinated polymer** which contains doped **polyaniline** for melt processable powder)
IT Electric **conductors**
(**films**; **conductive** composite of a **fluorinated polymer** which contains doped **polyaniline** for melt processable powder)
IT **24937-79-9**, Vinylidene **fluoride homopolymer**
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Kynar 9000; **conductive** composite of a **fluorinated** **polymer** which contains doped **polyaniline** for melt processable powder)
IT 25233-30-1P, **Polyaniline 147988-10-1P** **193701-93-8P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); **PREP (Preparation)**; USES (Uses)
(**conductive** composite of a **fluorinated** **polymer** which contains doped **polyaniline** for melt processable powder)
IT **24937-79-9**, Vinylidene **fluoride homopolymer**
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Kynar 9000; **conductive** composite of a **fluorinated** **polymer** which contains doped **polyaniline** for melt processable powder)
RN 24937-79-9 HCAPLUS
CN Ethene, 1,1-difluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-38-7
CMF C2 H2 F2



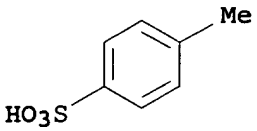
IT **147988-10-1P 193701-93-8P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); **PREP (Preparation)**; USES (Uses)
(**conductive** composite of a **fluorinated** **polymer** which contains doped **polyaniline** for melt processable powder)
RN 147988-10-1 HCAPLUS
CN Benzenamine, 4-methylbenzenesulfonate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 14034-57-2
CMF C7 H8 O3 S . C6 H7 N

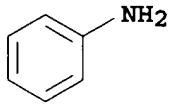
CM 2

CRN 104-15-4
CMF C7 H8 O3 S



CM 3

CRN 62-53-3
CMF C6 H7 N



RN 193701-93-8 HCAPLUS
CN Benzenesulfonic acid, dodecyl-, compd. with benzenamine (1:1), homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 52193-59-6
CMF C18 H30 O3 S . C6 H7 N

CM 2

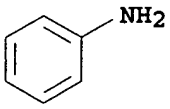
CRN 27176-87-0
CMF C18 H30 O3 S
CCI IDS

D1— SO_3H

Me— $(CH_2)_{11}$ — D1

CM 3

CRN 62-53-3
CMF C6 H7 N



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:431502 HCAPLUS
DN 141:126244
TI Proton **Conductive** Polyimide Electrolytes Containing Fluorenyl Groups: Synthesis, Properties, and Branching Effect
AU Miyatake, Kenji; Zhou, Hua; Watanabe, Masahiro
CS Clean Energy Research Center, University of Yamanashi, Kofu, 400-8510, Japan
SO Macromolecules (2004), 37(13), 4956-4960
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB Novel sulfonated polyimide copolymers as electrolytes for high-temperature fuel cell applications are reported. Sulfonated polyimide copolymers (SPIH-X; X refers to molar percentage of fluorenyl content) containing 0-60 mol % of fluorenyl groups as hydrophobic component were synthesized, of which electrolyte properties were studied and compared to those of the perfluorinated ionomer (Nafion 112). High-mol.-weight copolymers with good **film**-forming capability were obtained. Thermal stability with decomposition temperature of ca. 280 °C and no glass transition temperature was confirmed for the copolymers. SPIH shows unique water uptake behavior with the maximum value of 57% at X = 30. Water mols. absorbed in the electrolyte membrane with this specific **composition** do not evaporate easily so that the high proton **conductivity** of 1.67 S cm-1 was obtained at 120° and 100% RH. The branching and crosslinking of SPIH-30 were carried out by applying 2 mol % of trifunctional monomer (melamine) in the polymerization and by electron beam irradiation upon the membrane. The branching and crosslinking are effective to improve oxidative stability and mech. strength. Although the proton **conductivity** decreases slightly by the branching and crosslinking, it still remains at the comparable level to that of Nafion 112.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): **35**, **38**, 72, 76
ST proton **conductive** polyimide electrolyte fluorenyl group branching sulfonated membrane; fuel cell separator membrane polyelectrolyte arom polyimide mech strength
IT Polyimides, uses
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(fluorene group- and fluorine-containing, cardo, aryl, sulfonate-containing; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(fluorine- and sulfo-containing, ionomers, electrode binder; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)
IT Current density

(from methanol crossover, voltage and humidity effect on; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Electric current-potential relationship
(of assembled fuel cell; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Stability
(oxidative; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Carbon fibers, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(paper, anode support; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT **Fluoropolymers**, uses
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyimide-, **fluorene** group-containing, cardo, aryl, sulfonate-containing; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Cardo **polymers**
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyimides, **fluorene** group- and fluorine-containing, aryl, sulfonate-containing; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(polyoxyalkylene-, sulfo-containing, ionomers, electrode binder; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Ionomers
RL: DEV (Device component use); USES (Uses)
(polyoxyalkylenes, fluorine- and sulfo-containing, electrode binder; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Ion exchange membranes
(preparation and ion exchange capacity of; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Ionic **conductivity**
(proton; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Crosslinking
(radiochem.; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Fuel cell separators
Fuel cells
Membrane electrodes
Membranes, nonbiological
Polyelectrolytes
(synthesis, properties, and DMFC performance of proton

conductive polyimide electrolytes containing trifluoromethyl groups)

IT Carbon black, uses
RL: DEV (Device component use); USES (Uses)
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT Fluoropolymers, uses
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 117-61-3P, 4,4'-Diamino-2,2'-biphenyldisulfonic acid
RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(DAPS; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 15499-84-0, 4,4'-(9-Fluorenylidene)dianiline
RL: RCT (Reactant); RACT (Reactant or reagent)
(FDA; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 7732-18-5, Water, processes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(absorption of; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 7720-78-7, Ferrous sulfate
RL: CAT (Catalyst use); USES (Uses)
(for oxidative stability; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT **500783-35-7P**
RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); **PREP (Preparation)**
(plain and crosslinked; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 42615-02-1
RL: CAT (Catalyst use); DEV (Device component use); USES (Uses)
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 67-56-1, Methanol, uses
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 7440-06-4, Platinum, uses 7440-57-5, Gold, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 108-39-4, m-Cresol, uses

RL: NUU (Other use, unclassified); USES (Uses)
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT **481001-37-0P 724457-95-8P**
RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); **PREP (Preparation)**
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 163294-14-2, Nafion 112
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

IT 65-85-0, Benzoic acid, reactions 81-30-1, 1,4,5,8-Naphthalenetetracarboxylic dianhydride 108-78-1, Melamine, reactions 121-44-8, Triethylamine, reactions 7722-84-1, Hydrogen peroxide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

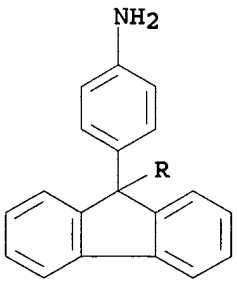
IT **500783-35-7P**
RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); **PREP (Preparation)**
(plain and crosslinked; synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)

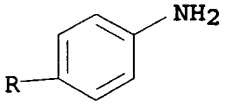
RN 500783-35-7 HCAPLUS

CN [1,1'-Biphenyl]-2,2'-disulfonic acid, 4,4'-diamino-, compd. with N,N-diethylethanamine (1:2), polymer with [2]benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone and 4,4'-(9H-fluoren-9-ylidene)bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

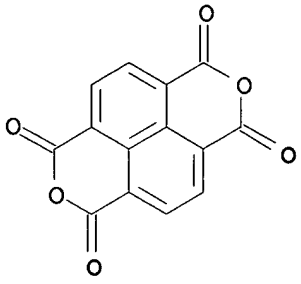
CRN 15499-84-0
CMF C25 H20 N2





CM 2

CRN 81-30-1
CMF C14 H4 O6

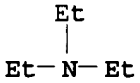


CM 3

CRN 481001-36-9
CMF C12 H12 N2 O6 S2 . 2 C6 H15 N

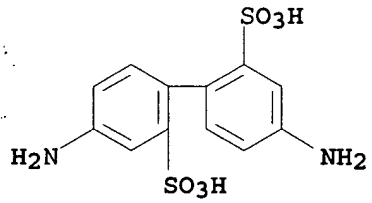
CM 4

CRN 121-44-8
CMF C6 H15 N



CM 5

CRN 117-61-3
CMF C12 H12 N2 O6 S2

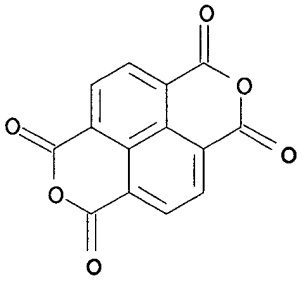


IT **481001-37-0P 724457-95-8P**
RL: PRP (Properties); PUR (Purification or recovery); SPN (Synthetic preparation); **PREP (Preparation)**
(synthesis, properties, and DMFC performance of proton **conductive** polyimide electrolytes containing trifluoromethyl groups)
RN 481001-37-0 HCAPLUS

CN [1,1'-Biphenyl]-2,2'-disulfonic acid, 4,4'-diamino-, compd. with N,N-diethylethanamine (1:2), polymer with [2]benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone (9CI) (CA INDEX NAME)

CM 1

CRN 81-30-1
CMF C14 H4 O6

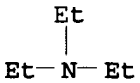


CM 2

CRN 481001-36-9
CMF C12 H12 N2 O6 S2 . 2 C6 H15 N

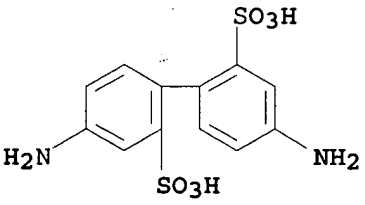
CM 3

CRN 121-44-8
CMF C6 H15 N



CM 4

CRN 117-61-3
CMF C12 H12 N2 O6 S2

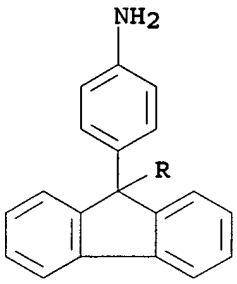


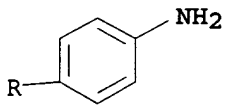
RN 724457-95-8 HCAPLUS
CN [1,1'-Biphenyl]-2,2'-disulfonic acid, 4,4'-diamino-, compd. with N,N-diethylethanamine (1:2), polymer with [2]benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone, 4,4'-(9H-fluoren-9-ylidene)bis[benzenamine] and 1,3,5-triazine-2,4,6-triamine (9CI) (CA

INDEX NAME)

CM 1

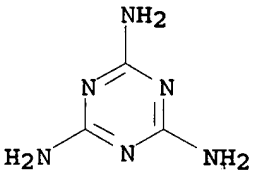
CRN 15499-84-0
CMF C25 H20 N2





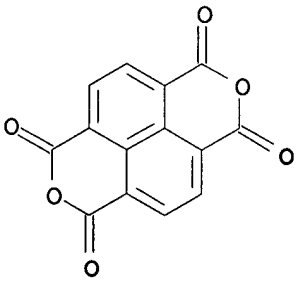
CM 2

CRN 108-78-1
CMF C3 H6 N6



CM 3

CRN 81-30-1
CMF C14 H4 O6

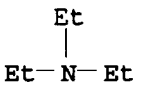


CM 4

CRN 481001-36-9
CMF C12 H12 N2 O6 S2 . 2 C6 H15 N

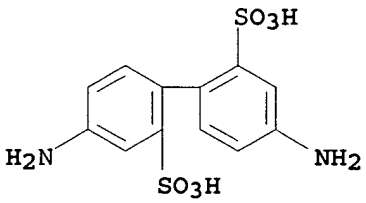
CM 5

CRN 121-44-8
CMF C6 H15 N



CM 6

CRN 117-61-3
CMF C12 H12 N2 O6 S2

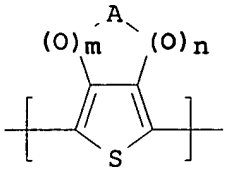


RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

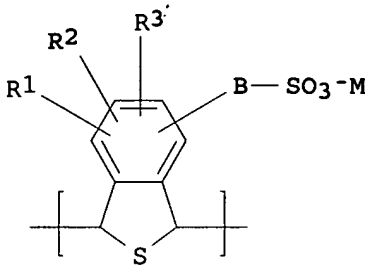
L32 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:271590 HCAPLUS
DN 140:311998
TI Antistatic agent for antistatic **film** covering chemically amplified resist **film**, pattern formation using the antistatic **film**, and its use
IN Saita, Yoshihiro; Abe, Shinyoku
PA Showa Denko K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004099678	A2	20040402	JP 2002-260957	20020906
PRAI JP 2002-260957		20020906		

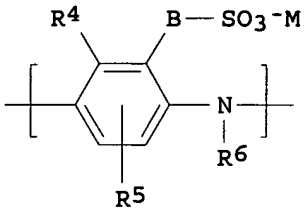
OS MARPAT 140:311998
GI



I



II



III

AB The antistatic agent with good pH stability contains **water**-soluble elec. **conductive polymers**, **fluorinated** aliphatic amines, and **water**. Preferably, the amines comprise ≥1 represented by the general formula X(CF2)mCY2NH2 (X = F, OH; Y = H, F; m = 1-10 integer), more preferably, trifluoroethylamine. Preferably, the **water**-soluble elec. **conductive** polymers comprise π-conjugated ones bearing Broensted acid groups, more preferably, sulfonic acid groups. More preferably, the **water**-soluble elec. **conductive** polymers are represented by general formulas I [m, n = 0, 1; A = C1-4 alkylene, C1-4 alkenylene which have ≥1 BSO3-M, may be substituted with halo, OH, NO2, etc., and may contain ≥2 C:C; B = (CH2)p[O(CH2)q]r; p = 0-5 integer, q = 1-3 integer, r = 0-3 integer; M = H+, alkali metal ion, quaternary ammonium ion], II or III [R1-R5 = H, C1-20 hydrocarbyl, alkoxy, alkylester, OH, halo, NO2, BSO3M, etc.; alkyl, alkoxy, or alkylester groups of R1-R5 may contain CO, ether, CO2, SO3, amido, sulfoneamido, sulfide, S(O), SO2, :NH, thioether in the chain; R6 = H, C1-20 hydrocarbyl or Ph which may be substituted; B, p, q, r, M = same as I]. The **water**-soluble elec. **conductive** polymers may contain 5-sulfoisothianaphthene-1,3-diyl as the chemical structure. The antistatic treatment agent amy contain surfactants. Chemical-amplified resist **films** are covered with **films** of the antistatic treatment agent. Semiconductor elements, photomasks, reticles, glass substrates, quartz substrates, GMR heads, or magnetic substrates are fabricated by using the antistatic treatment agent.

IC ICM C09K003-16
ICS C08G061-12; C08L079-00; G03F007-11; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): **38**, 76, 77

ST trifluoroethylamine neutralized polysulfoisothianaphthene diyl antistatic agent; chem amplified **film** coating antistatic agent; fluorinated aliph amine neutralizing agent; self doped elec **conductive** polymer neutralizing

IT Magnetic recording heads
(GMR; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use in fabrication of)

IT Amines, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(aliphatic, fluorinated; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

IT Antistatic agents
Electron beam resists
(buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

IT Glass substrates
Photomasks (lithographic masks)
Semiconductor devices
(buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use in fabrication of)

IT Giant magnetoresistance
(heads; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use in fabrication of)

IT **Conducting** polymers
(polythiophenes; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

IT Magnetic materials
(substrates; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use in fabrication of)

IT **Conducting** polymers
(**water**-soluble; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

IT 119574-53-7, SAL 601
RL: TEM (Technical or engineered material use); USES (Uses)
(EB resist; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

IT 27176-87-0, Dodecylbenzenesulfonic acid 29010-16-0, Trifluoroethylamine
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

IT 188754-53-2, Poly(5-sulfoisothianaphthene-1,3-diyl)
RL: TEM (Technical or engineered material use); USES (Uses)
(buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

IT 247072-90-8, NEB 22
RL: TEM (Technical or engineered material use); USES (Uses)

(neg. EB resist; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

IT 14808-60-7, Quartz, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrates; buffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use in fabrication of)

IT 25233-30-1D, **Polyaniline**, sulfonated
RL: TEM (Technical or engineered material use); USES (Uses)
(βuffered **water**-soluble elec. **conductive** polymer-based antistatic agent for antistatic coating on chemical amplified resist **film**, its patterning, and its use)

L32 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:872173 HCAPLUS
DN 138:228353
TI Electropolymerization and in situ sulfonation of **aniline** in **water**-acetonitrile mixture containing FSO3H
AU Sahin, Yucel; Pekmez, Kadir; Yildiz, Attila
CS Faculty of Science, Department of Chemistry, Anadolu University, Eskisehir, 26470, Turk.
SO Synthetic Metals (2002), 131(1-3), 7-14
CODEN: SYMEDZ; ISSN: 0379-6779
PB Elsevier Science B.V.
DT Journal
LA English
AB In situ sulfonation reaction of **aniline** was carried out in **water** and **water**-acetonitrile mixture by changing both **aniline** and fluorosulfonic acid (FSO3H) concns. The optimum conditions for the polymer formation was determined The dry **conductivity** values of the **film** increased and the solubilities of the polymer decreased with increasing volume of acetonitrile in the mixture The polymer **film** was found to grow much faster compared to the growth in non-**aqueous** acetonitrile. FTIR, elemental anal., cyclic voltammetry and UV-VIS spectroscopic methods were used to characterize the polymers.
CC 72-9 (Electrochemistry)
Section cross-reference(s): **38**, 73
ST **aniline** electropolymn sulfonation **water** acetonitrile fluorosulfonic acid
IT Polymerization
(electrochem.; and in situ sulfonation of **aniline** in **water**-acetonitrile mixture containing FSO3H)
IT Sulfonation
(electropolymn. and in situ sulfonation of **aniline** in **water**-acetonitrile mixture containing FSO3H)
IT Cyclic voltammetry
(of Pt electrode in **water**-acetonitrile mixture containing FSO3H in presence of **aniline** and formed **polyaniline** **film** in FSO3H solution containing pyridine)
IT Optimization
(of conditions for electropolymn. and in situ sulfonation of **aniline** in **water**-acetonitrile mixture containing FSO3H)
IT UV and visible spectra
(of **polyaniline film** formed on Pt electrode in presence of FSO3H in **water**-acetonitrile and in DMSO)
IT IR spectra
(of **polyaniline film** formed on Pt electrode in **water**-acetonitrile solution containing FSO3H)

IT Oxidation, electrochemical
(of **polyaniline film** on Pt electrode in FSO3H solution containing pyridine)
IT Solubility
(of **polyaniline film** on Pt electrode in basic **aqueous** solns., DMSO and NMP)
IT 110-86-1, Pyridine, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(cyclic voltammetry of Pt electrode coated with **polyaniline film** in FSO3H solution containing)
IT 62-53-3, **Aniline**, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electropolymn. and in situ sulfonation in **water**-acetonitrile mixture containing FSO3H)
IT 7789-21-1, **Fluorosulfonic** acid
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(**electropolymn.** and in situ sulfonation of **aniline** in **water**-acetonitrile mixture containing)
IT 75-05-8, Acetonitrile, uses 7732-18-5, **Water**, uses
RL: NUU (Other use, unclassified); USES (Uses)
(electropolymn. and in situ sulfonation of **aniline** in **water**-acetonitrile mixture containing FSO3H)
IT 7440-06-4, Platinum, uses
RL: DEV (Device component use); USES (Uses)
(electropolymn. and in situ sulfonation of **aniline** in **water**-acetonitrile mixture containing FSO3H on Pt electrode)
IT 67-68-5, DMSO, uses 872-50-4, NMP, uses
RL: NUU (Other use, unclassified); USES (Uses)
(of **polyaniline film** formed on Pt electrode in)
IT 1310-58-3, Potassium hydroxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(of **polyaniline film** formed on Pt electrode in solution of)
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:439119 HCAPLUS
DN 137:21065
TI Electrically **conductive** polymer **compositions** with uniform resistivity and high voltage-resistance dependence
IN Yoshikawa, Hitoshi; Suzuki, Satoshi; Ito, Kunio
PA Tokai Rubber Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002167519	A2	20020611	JP 2001-252690	20010823
	JP 2006089755	A2	20060406	JP 2005-350302	20051205
	JP 2006124717	A2	20060518	JP 2005-350301	20051205
	JP 2006146249	A2	20060608	JP 2005-350300	20051205
PRAI	JP 2000-284068	A	20000919		
	JP 2001-252690	A3	20010823		

AB The compns., useful for electrophotog. components, contain (A) elec. **conductive** polymers having surfactant structures and (B) binder polymers. Thus, 10 parts aniline and 8 parts dodecylbenzenesulfonic acid were oxidation-polymerized to give an elec. **conductive** polymer, which was blended with 82 parts poly(Me methacrylate) and extruded on a glass plate to give a 100-μm elec. **conductive film** with elec. resistivity 1.5 + 106 Ω-cm and high resistivity dependence on temperature, humidity, and voltage.

IC ICM C08L101-12
ICS C08K003-00; C08L101-00; F16C013-00; G03G015-00; G03G015-02; G03G015-08; G03G015-16; G03G021-06; G03G021-10

CC 37-6 (**Plastics** Manufacture and Processing)
Section cross-reference(s): 42, 76

ST **conductive** surfactant polymer blend voltage resistance dependence; aniline dodecylbenzenesulfonic acid copolymer PMMA blend **conductor** coating

IT Carbon black, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(Denka Black HS 100, **conducting** agent; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT Fluoropolymers, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(acrylic, binder; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT Acrylic polymers, uses
Epoxy resins, uses
Polyamides, uses
Polyurethanes, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(binder; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT **Conducting** polymers
(elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT Polyanilines
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT Polymer blends
RL: TEM (Technical or engineered material use); USES (Uses)
(elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT Coating materials
(elec. **conductive**; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT Acrylic **polymers**, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(**fluorine**-containing, binder; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT Nitrile rubber, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(hydrogenated, Zetpol 0020, binder; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT 9011-14-7, Poly(methyl methacrylate) 85510-39-0, EF 30T 434322-68-6, Defensa TR 230K
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(binder; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT 32503-27-8, Tetrabutylammonium hydrogensulfate
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(**conducting** agent; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT **132512-01-7P**, Aniline-dodecylbenzenesulfonic acid copolymer 433731-72-7P 433731-73-8P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT 9003-18-3
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, hydrogenated, Zetpol 0020, binder; elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

IT **132512-01-7P**, Aniline-dodecylbenzenesulfonic acid copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(elec. **conductive** polymer compns. containing **conductive** polymers having surfactant structure with uniform resistivity and high voltage-resistance dependence)

RN 132512-01-7 HCAPLUS
CN Benzenesulfonic acid, dodecyl-, polymer with benzenamine (9CI) (CA INDEX NAME)

CM 1

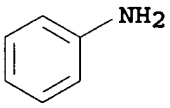
CRN 27176-87-0
CMF C18 H30 O3 S
CCI IDS

D1—SO_3H

Me—$(CH_2)_{11}$—D1

CM 2

CRN 62-53-3
CMF C6 H7 N



L32 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:403574 HCAPLUS
DN 135:26829
TI Thermally stable semiconductive polyamic acid **composition** and its application in electrophotographic copying machine
IN Nishiura, Naoki
PA Gunze, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001152013	A2	20010605	JP 1999-335764	19991126
PRAI JP 1999-335764		19991126		

AB The **composition** contains 10-25% carbon black with a structure index, i.e., [DBP (di-Bu phthalate) absorption; g/100 g]/(volatile content; weight%), ≤100 and 75-90% polyamic acid. The **composition** is rotationally molded without centrifugal force to give a thermally stable endless tubular polyimide **film.** The tubular polyimide **film** is preferably coated with a silicone rubber, fluoro rubber, or fluorosilicone rubber layer and has elec. **conductivity** ≤1 μS/cm2 and electrostatic capacitance 10-400 pF/cm2. The tubular **film** is used as a belt for intermediate image transfer or for heat fixing of image in a color electrophotog. copying machine.
IC ICM C08L079-08
ICS C08L079-08; B29C041-04; C08G073-10; C08J005-18; C08J007-04; C08K003-04; G03G015-16; G03G015-20; H01B001-24; B29K079-00; B29L023-00
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 37, 38, 39, 76

ST thermally stable semiconductive polyamic acid **compn**; carbon black oil absorption volatile content; rotationally molded endless tubular **film** polyimide; silicone rubber polyimide tubular **film** belt; fluoro rubber polyimide tubular **film** belt; fluorosilicone rubber polyimide tubular **film** belt; color electrophotog coping machine belt polyimide

IT Fluoro rubber
RL: DEV (Device component use); USES (Uses)
(GLS 213; thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt covered with)

IT Belts
(endless; thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog. copying machine)

IT Silicone rubber, uses
RL: DEV (Device component use); USES (Uses)
(fluorine-containing; thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt covered with)

IT Molding of plastics and rubbers
(rotational; of thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog. copying machine)

IT Fluoro rubber
RL: DEV (Device component use); USES (Uses)
(silicone; thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt covered with)

IT Silicone rubber, uses
RL: DEV (Device component use); USES (Uses)
(thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt covered with)

IT Electric **conductors**
Electrophotographic apparatus
Heat-resistant materials
Resistors
(thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog. copying machine)

IT Polyamic acids
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PROC (Process); USES (Uses)
(thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog. copying machine)

IT Polyimides, properties
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)
(thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog. copying machine)

IT Carbon black, uses
RL: MOA (Modifier or additive use); USES (Uses)
(thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog. copying machine)

IT Plastic **films**
(tubular; thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog.

copying machine)

IT **9011-17-0**, Hexafluoropropylene-vinylidene **fluoride** **copolymer**
RL: DEV (Device component use); USES (Uses)
(rubber; thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt covered with)

IT 9043-05-4P 25036-53-7P, 4,4'-Diaminodiphenyl ether-pyromellitic anhydride copolymer, sru 25038-81-7P, 4,4'-Diaminodiphenyl ether-pyromellitic anhydride copolymer **26875-02-5P**, 3,3',4,4'-Benzophenonetetracarboxylic acid-4,4'-diaminodiphenylmethane copolymer 26913-87-1P 56802-71-2P
RL: DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); **PREP (Preparation)**; PROC (Process); USES (Uses)
(thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog. copying machine)

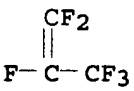
IT **9011-17-0**, Hexafluoropropylene-vinylidene **fluoride** **copolymer**
RL: DEV (Device component use); USES (Uses)
(rubber; thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt covered with)

RN 9011-17-0 HCAPLUS

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (9CI) (CA INDEX NAME)

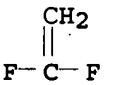
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 75-38-7
CMF C2 H2 F2



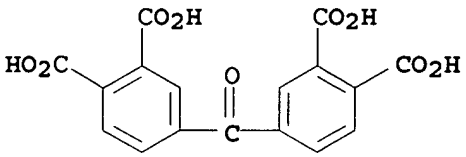
IT **26875-02-5P**, 3,3',4,4'-Benzophenonetetracarboxylic acid-4,4'-diaminodiphenylmethane copolymer
RL: DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); **PREP (Preparation)**; PROC (Process); USES (Uses)
(thermally stable polyamic acid **composition** containing carbon black for endless tubular **film** for belt in electrophotog. copying machine)

RN 26875-02-5 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, 4,4'-carbonylbis-, polymer with 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

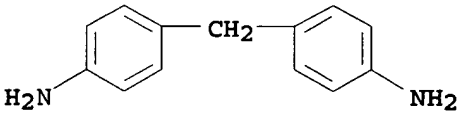
CM 1

CRN 2479-49-4
CMF C17 H10 O9



CM 2

CRN 101-77-9
CMF C13 H14 N2



L32 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:109971 HCAPLUS
DN 134:164180
TI Block polyimide thin **films**, their manufacture by casting, and their use
IN Matsumoto, Shunichi; Itatani, Hiroshi
PA PI Gijitsu Kenkyusho K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001040108	A2	20010213	JP 1999-246027	19990728
PRAI JP 1999-246027		19990728		

AB The thin **films** are manufactured by casting polyimide block copolymer solns. on a substrate **film**, followed by drying and peeling the copolymer off the substrate **film.** The **films** are used as (A) heat-resistant thin-**film** capacitors by lamination with elec. **conductive** thin **films**, (B) semiconductor passivation **films** by lamination on a semiconductor, and (C) an elec. insulator by applying on an elec. circuit substrate. Thus, a block polyimide solution [prepared from 3,4,3',4'-benzophenonetetracarboxylic dianhydride, 2,4-diaminotoluene, 3,4,3',4'-biphenyltetracarboxylic anhydride, and 2,2-bis[4-(4-aminophenoxy)phenyl]propane] was cast on a PET **film**, dried, and peeled off the PET **film** to give a 3-μm polymeric **film.**
IC ICM C08J005-18

ICS C08G073-10
CC 38-3 (**Plastics** Fabrication and Uses)
Section cross-reference(s): 76
ST block polyimide cast **film** elec insulator; capacitor cast **film** block polyimide; semiconductor passivation **film** block polyimide
IT Passivation
(**film** for; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Polyimides, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine-contg, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Capacitors
Electric insulators
(manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Polyimides, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Polyimides, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, fluorine-containing, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Fluoropolymers, uses
Polyketones
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-polyimide-, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Polyimides, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-polyketone-, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Fluoropolymers, uses
Polyethers, uses
Polyketones
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Polyethers, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-, fluorine-containing, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)
IT Polyethers, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-polyketone-, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)

IT Polyimides, uses
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyketone-, block; manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)

IT 15499-84-0DP, 9,9-Bis(4-aminophenyl)**fluorene**, polyimide block **polymers** 69563-88-8DP, 2,2-Bis[4-(4-aminophenoxy)phenyl]hexafluoropropane, polyimide block polymers 177190-45-3P **324750-74-5P 324750-77-8P** 325467-77-4P 325467-78-5P **325467-79-6P** 325467-80-9P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)

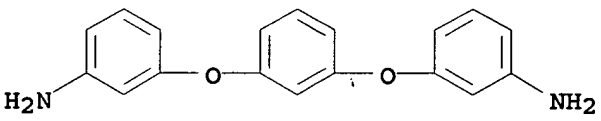
IT **324750-74-5P 324750-77-8P 325467-79-6P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(manufacture of block polyimide thin **films** for capacitors, elec. insulators, and semiconductor passivation **films**)

RN 324750-74-5 HCAPLUS

CN Benzoic acid, 3,5-diamino-, polymer with [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 3a,4,4a,7a,8,8a-hexahydro-4,8-etheno-1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone and 3,3'-[1,3-phenylenebis(oxy)]bis[benzenamine], block (9CI) (CA INDEX NAME)

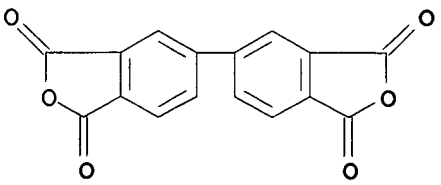
CM 1

CRN 10526-07-5
CMF C18 H16 N2 O2



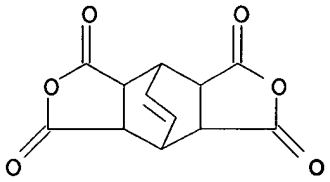
CM 2

CRN 2420-87-3
CMF C16 H6 O6



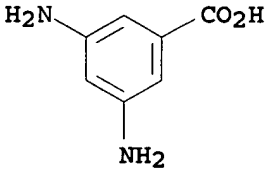
CM 3

CRN 1719-83-1
CMF C12 H8 O6



CM 4

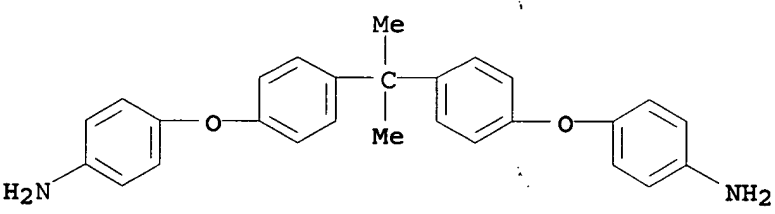
CRN 535-87-5
CMF C7 H8 N2 O2



RN 324750-77-8 HCAPLUS
CN Benzoic acid, 3,5-diamino-, polymer with [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 5,5'-carbonylbis[1,3-isobenzofurandione], 4-methyl-1,3-benzenediamine and 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[benzenamine], block (9CI) (CA INDEX NAME)

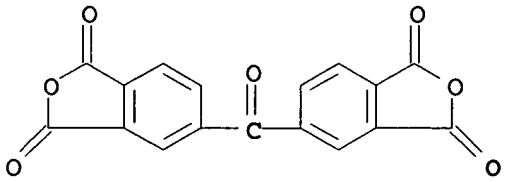
CM 1

CRN 13080-86-9
CMF C27 H26 N2 O2



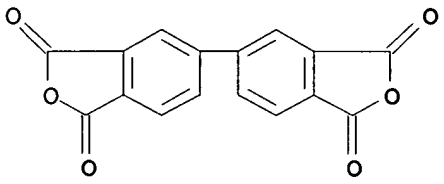
CM 2

CRN 2421-28-5
CMF C17 H6 O7



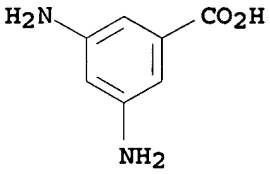
CM 3

CRN 2420-87-3
CMF C16 H6 O6



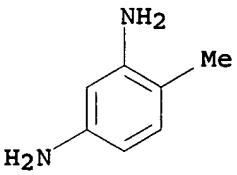
CM 4

CRN 535-87-5
CMF C7 H8 N2 O2



CM 5

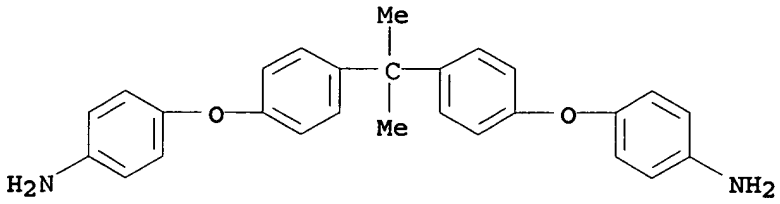
CRN 95-80-7
CMF C7 H10 N2



RN 325467-79-6 HCAPLUS
CN Benzoic acid, 3,4-diamino-, polymer with 3-(4-aminophenoxy)benzenamine, [5,5'-biisobenzofuran]-1,1',3,3'-tetrone, 3a,4,4a,7a,8,8a-hexahydro-4,8-etheno-1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone and 4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[benzenamine], block (9CI) (CA INDEX NAME)

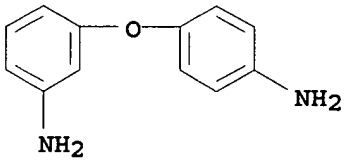
CM 1

CRN 13080-86-9
CMF C27 H26 N2 O2



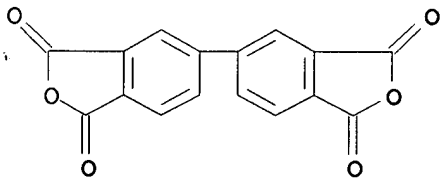
CM 2

CRN 2657-87-6
CMF C12 H12 N2 O



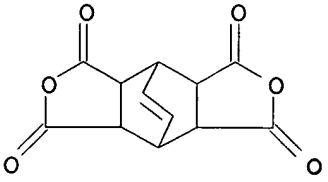
CM 3

CRN 2420-87-3
CMF C16 H6 O6



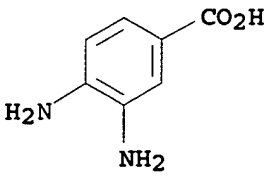
CM 4

CRN 1719-83-1
CMF C12 H8 O6



CM 5

CRN 619-05-6
CMF C7 H8 N2 O2



L32 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:570035 HCAPLUS
DN 133:136539
TI Polyimide/fluoropolymer laminates, their fabrication, and insulating tape for wrapping around **conductors**
IN Nishinaka, Masaru; Ono, Kazuhiro; Akahori, Kiyokazu
PA Kaneka Corporation, Japan
SO Fr. Demande, 29 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2786193	A1	20000526	FR 1999-14597	19991119
	FR 2786193	B1	20020322		
	JP 2000211081	A2	20000802	JP 1999-310944	19991101
	US 6475624	B1	20021105	US 1999-443382	19991119
PRAI	JP 1998-331728	A	19981120		

OS MARPAT 133:136539
AB The laminates are obtained by applying a fluoropolymer layer to one or both sides of a polyimide **film** which shows ≥80% retention of tear strength (ASTM D 1938) after 12 h at 150° and 100% relative humidity. Preferably the polyimide **film** contains a compound of Al, Si, Ti, Mn, Fe, Co, Cu, Zn, Sn, Sb, Pb, or Bi, incorporated at the polyamic acid stage before cyclization. Thus, 90 g of a 17% solution in DMF of a polyamic acid from pyromellitic anhydride 4, 4,4'-diaminodiphenyl ether 3, and p-phenylenediamine 1 mol was mixed with 0.1 g tributoxytitanium stearate, coated on an Al foil, gelled 2 min at 110°, separated from the foil, and heated 1 min each at 300°, 400°, and 500° to give a polyimide **film** 25 μm thick, which showed tear strength retention 87%, compared with 38% when the Ti compound was omitted. An aqueous dispersion of FEP was applied to both sides of the polyimide **film** at 2.5 μm each side, dried 1 min at 150°, and cured 15 s at 415° to give a laminated tape.
IC ICM C08J007-04
ICS C08L079-08; H01B003-30
CC 38-3 (**Plastics** Fabrication and Uses)
ST insulating tape polyimide fluoropolymer laminate
IT Polyimides, uses
Polyimides, uses
Polyimides, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM

(Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyether-; polyimide-fluoropolymer laminates as insulating tape for wrapping around **conductors**)

IT Polyethers, uses
Polyethers, uses
Polyethers, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyimide-; polyimide-fluoropolymer laminates as insulating tape for wrapping around **conductors**)

IT Polyimides, uses
Polyimides, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-; polyimide-fluoropolymer laminates as insulating tape for wrapping around **conductors**)

IT Polyesters, uses
Polyesters, uses
Polyesters, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-polyimide-; polyimide-fluoropolymer laminates as insulating tape for wrapping around **conductors**)

IT Polyethers, uses
Polyethers, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-; polyimide-fluoropolymer laminates as insulating tape for wrapping around **conductors**)

IT **Fluoropolymers**, uses
Laminated plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyimide-**fluoropolymer** laminates as insulating tape for wrapping around **conductors**)

IT Electric insulators
(tapes; polyimide-fluoropolymer laminates as insulating tape for wrapping around **conductors**)

IT 25036-53-7P 25038-81-7P, 4,4'-Diaminodiphenyl ether-pyromellitic anhydride **copolymer** 31975-60-7P, 4,4'-Diaminodiphenyl ether-p-phenylenediamine-pyromellitic anhydride **copolymer**
208934-81-0P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polyimide-**fluoropolymer** laminates as insulating tape for wrapping around **conductors**)

IT 7772-99-8, Stannous chloride, uses 79110-90-0 81307-49-5
RL: MOA (Modifier or additive use); USES (Uses)
(polyimide-fluoropolymer laminates as insulating tape for wrapping around **conductors**)

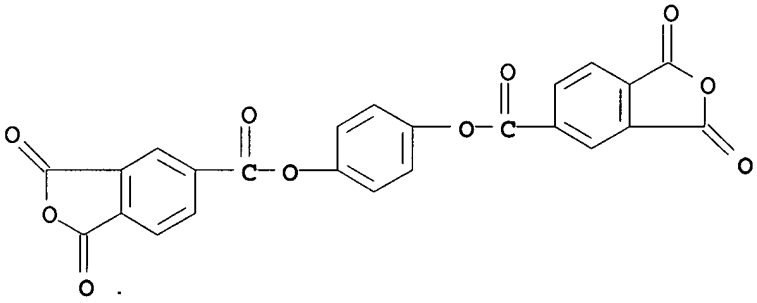
IT **25067-11-2**, Hexafluoropropylene-tetrafluoroethylene **copolymer**
RL: TEM (Technical or engineered material use); USES (Uses)
(polyimide-**fluoropolymer** laminates as insulating tape for wrapping around **conductors**)

IT **208934-81-0P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polyimide-fluoropolymer laminates as insulating tape for wrapping

around **conductors**)
RN 208934-81-0 HCAPLUS
CN 5-Isobenzofurancarboxylic acid, 1,3-dihydro-1,3-dioxo-, 1,4-phenylene ester, polymer with 1,4-benzenediamine, 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone and 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

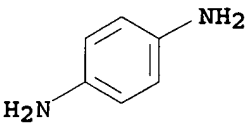
CM 1

CRN 2770-49-2
CMF C24 H10 O10



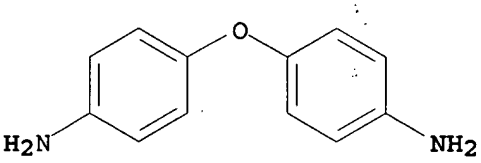
CM 2

CRN 106-50-3
CMF C6 H8 N2



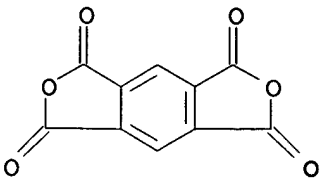
CM 3

CRN 101-80-4
CMF C12 H12 N2 O



CM 4

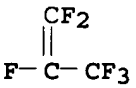
CRN 89-32-7
CMF C10 H2 O6



IT **25067-11-2**, Hexafluoropropylene-tetrafluoroethylene **copolymer**
RL: TEM (Technical or engineered material use); USES (Uses)
(polyimide-**fluoropolymer** laminates as insulating tape for wrapping around **conductors**)
RN 25067-11-2 HCAPLUS
CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with tetrafluoroethene (9CI) (CA INDEX NAME)

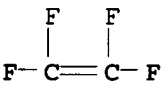
CM 1

CRN 116-15-4
CMF C3 F6



CM 2

CRN 116-14-3
CMF C2 F4



L32 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:575452 HCAPLUS
DN 131:311132
TI Enhancement of electrical stability of **polyaniline films** in **aqueous** media by surface graft copolymerization with hydrophobic monomers
AU Zhao, Baozong; Neoh, K. G.; Liu, F. T.; Kang, E. T.; Tan, K. L.
CS Department of Chemical and Environmental Engineering, National University of Singapore, Kent Ridge, 119260, Singapore
SO Langmuir (1999), 15(23), 8259-8264
CODEN: LANGD5; ISSN: 0743-7463
PB American Chemical Society
DT Journal
LA English
AB Surface modification of free-standing **polyaniline** (PANi) **films** and PANi coating on low-d. polyethylene (LDPE) substrates via UV-induced graft copolymn. with hydrophobic monomers was carried out. Pentafluorostyrene (PFS) and styrene were successfully graft copolymd. on the PANi surfaces, rendering them hydrophobic. The effects of UV graft

copolymn. time, graft copolymn. temperature, and monomer concentration on the graft concentration were investigated. The pristine and graft-modified **films** were characterized using both surface and bulk anal. techniques. For the pristine PANi **films**, the loss of counterions from the surface region of the **film** occurs very rapidly in deionized **water.** This loss is very effectively retarded by surface graft copolymn. with PFS, hence preserving the PANi's **conductivity** even upon prolonged immersion in deionized **water.** This enhancement in the elec. stability of the PANi **film** was also achieved in moderately basic **aqueous** medium.

CC 37-5 (**Plastics** Manufacture and Processing)
Section cross-reference(s): 76

ST **polyaniline** graft polymn elec stability enhancement

IT Contact angle
Hydrophobicity
(elec. stability enhancement and hydrophobization of **polyaniline films** in **aqueous** media by graft polymerization)

IT **Conducting** polymers
(elec. stability enhancement of **polyaniline films** in **aqueous** media by graft polymerization)

IT **Polyanilines**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(elec. stability enhancement of **polyaniline films** in **aqueous** media by graft polymerization)

IT Fluoropolymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(elec. stability enhancement of **polyaniline films** in **aqueous** media by graft **polymerization** with **fluorostyrene**)

IT Polymerization
(graft, photochem.; elec. stability enhancement of **polyaniline films** in **aqueous** media by graft polymerization)

IT Polymerization
(graft, surface; elec. stability enhancement of **polyaniline films** in **aqueous** media by graft polymerization)

IT Polymer morphology
(surface; in elec. stability enhancement and hydrophobization of **polyaniline films** in **aqueous** media by graft polymerization)

IT 167762-99-4P, **Aniline**-styrene graft copolymer 247215-97-0P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(elec. stability enhancement of **polyaniline films** in **aqueous** media by graft polymerization)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:464360 HCAPLUS
DN 129:122975
TI Salts of perfluorinated sulfonamides or sulfinamides and their use as ionic **conductors** and as catalysts
IN Armand, Michel; Choquette, Yves; Gauthier, Michel; Michot, Christophe
PA Centre National de la Recherche Scientifique (CNRS), Fr.; Hydro-Quebec
SO Eur. Pat. Appl., 65 pp.
CODEN: EPXXDW
DT Patent
LA French
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 850920	A2	19980701	EP 1997-403187	19971230
	EP 850920	A3	19980708		
	EP 850920	B1	20020911		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CA 2194127	AA	19980630	CA 1996-2194127	19961230
	CA 2199231	AA	19980905	CA 1997-2199231	19970305
	CA 2244979	AA	19980709	CA 1997-2244979	19971230
	CA 2248242	AA	19980709	CA 1997-2248242	19971230
	CA 2248244	AA	19980709	CA 1997-2248244	19971230
	CA 2248246	AA	19980709	CA 1997-2248246	19971230
	CA 2248303	AA	19980709	CA 1997-2248303	19971230
	CA 2248304	AA	19980709	CA 1997-2248304	19971230
	WO 9829358	A2	19980709	WO 1997-CA1008	19971230
	WO 9829358	A3	19981008		
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	WO 9829399	A1	19980709	WO 1997-CA1009	19971230
	W: CA, JP, US				
	WO 9829389	A1	19980709	WO 1997-CA1010	19971230
	W: CA, JP, US				
	WO 9829396	A1	19980709	WO 1997-CA1011	19971230
	W: CA, JP, US				
	WO 9829877	A1	19980709	WO 1997-CA1012	19971230
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	WO 9829388	A1	19980709	WO 1997-CA1013	19971230
	W: CA, JP, US				
	EP 889863	A2	19990113	EP 1997-951051	19971230
	EP 889863	B1	20030507		
	R: DE, FR, GB, IT				
	EP 890176	A1	19990113	EP 1997-951052	19971230
	EP 890176	B1	20010620		
	R: DE, FR, GB, IT				
	JP 2000508114	T2	20000627	JP 1998-529517	19971230
	JP 2000508346	T2	20000704	JP 1998-529516	19971230
	JP 2000508676	T2	20000711	JP 1998-529514	19971230
	JP 2000508677	T2	20000711	JP 1998-529515	19971230
	JP 2000508678	T2	20000711	JP 1998-529518	19971230
	JP 2002514245	T2	20020514	JP 1998-529513	19971230
	US 6120696	A	20000919	US 1998-125792	19980828
	US 6171522	B1	20010109	US 1998-101811	19981119
	US 6333425	B1	20011225	US 1998-101810	19981119
	US 6228942	B1	20010508	US 1998-125798	19981202
	US 6395367	B1	20020528	US 1998-125799	19981202
	US 6319428	B1	20011120	US 1998-125797	19981203
	US 6365068	B1	20020402	US 2000-609362	20000630
	US 6576159	B1	20030610	US 2000-638793	20000809
	US 2001024749	A1	20010927	US 2001-826941	20010406
	US 6506517	B2	20030114		
	US 2002009650	A1	20020124	US 2001-858439	20010516
	US 2002102380	A1	20020801	US 2002-107742	20020327
	US 6835495	B2	20041228		
	US 2003052310	A1	20030320	US 2002-253035	20020924
	US 2003066988	A1	20030410	US 2002-253970	20020924
	US 2005074668	A1	20050407	US 2004-789453	20040227
	US 2005123831	A1	20050609	US 2004-926283	20040825
PRAI	CA 1996-2194127	A	19961230		

	CA 1997-2199231	A	19970305
	WO 1997-CA1008	W	19971230
	WO 1997-CA1009	W	19971230
	WO 1997-CA1010	W	19971230
	WO 1997-CA1011	W	19971230
	WO 1997-CA1012	W	19971230
	WO 1997-CA1013	W	19971230
	US 1998-101810	A3	19981119
	US 1998-101811	A3	19981119
	US 1998-125798	A3	19981202
	US 1998-125799	A3	19981202
	US 1998-125797	A1	19981203
	US 2000-638793	A1	20000809
	US 2001-858439	A1	20010516
	US 2002-107742	A1	20020327

OS MARPAT 129:122975

AB The salts comprise a cation and R1SOxN-Z in amts. to balance the pos. and neg. charges, where R1 is halo, perhaloalkyl (optionally interrupted by O, S, or NH) or -alkaryl, R2CF2, R2CF2CF2, R2CF2CF(CF3), or CF3CFR2; R2 is an organic radical which is not perhalogenated; Z is an electron-withdrawing group, which may be the residue of a polymer or may be a polyvalent group attached to other N-SOxR1 moieties; and x = 1 or 2. Thus, a mixture of 40 mmol acrylonitrile and 60 mmol 4-CH2:CHC6H4SO2N-SO2CF3 Li+ was copolymd. in 82% yield by use of 1,1'-azobis(cyclohexanecarbonitrile) in THF, and the copolymer was used at 20% concentration as a binder in both the carbon anode and the carbon-LiNiO2 cathode of a battery containing a gelled electrolyte.

IC ICM C07C311-48
ICS C07C311-09; C07D307-64; C07D303-34; C07D407-04; C07D207-452; C07D213-76; C07D285-135; C07D251-70; C07D219-10; C07D311-82

CC 35-3 (Chemistry of Synthetic High **Polymers**)
Section cross-reference(s): 52, 67, 76

ST sulfonamide salt ionic **conductor**

IT Cathodes
(containing salts of perfluorinated sulfonamides or sulfinamides)

IT Extrusion of plastics and rubbers
(of poly(ethylene oxide) **films** containing salts of perfluorinated sulfonamides or sulfinamides)

IT Secondary batteries
(polymeric salts of perfluorinated sulfonamides or sulfinamides for use in)

IT Aldol condensation catalysts
Friedel-Crafts reaction catalysts
Michael reaction catalysts
Polymerization catalysts
(salts of perfluorinated sulfonamides or sulfinamides for use as)

IT **Conducting** polymers
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT Polyoxyalkylenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT Polyoxyalkylenes, preparation
Polysiloxanes, preparation
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT Diels-Alder reaction catalysts

(stereospecific; salts of perfluorinated sulfonamides or sulfinamides for use as)
IT 78-94-4, 3-Buten-2-one, reactions 542-92-7, Cyclopentadiene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(salts of perfluorinated sulfonamides or sulfinamides as Diels-Alder reaction catalysts for)
IT 5063-03-6P
RL: PNU (Preparation, unclassified); PREP (Preparation)
(salts of perfluorinated sulfonamides or sulfinamides as Diels-Alder reaction catalysts for preparation of)
IT 100-66-3, Anisole, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(salts of perfluorinated sulfonamides or sulfinamides as Friedel-Crafts acylation catalysts for)
IT 100-06-1P, p-Methoxyacetophenone
RL: PNU (Preparation, unclassified); PREP (Preparation)
(salts of perfluorinated sulfonamides or sulfinamides as Friedel-Crafts acylation catalysts for preparation of)
IT 94-41-7, Chalcone
RL: RCT (Reactant); RACT (Reactant or reagent)
(salts of perfluorinated sulfonamides or sulfinamides as Michael addition catalysts for)
IT 58649-05-1P
RL: PNU (Preparation, unclassified); PREP (Preparation)
(salts of perfluorinated sulfonamides or sulfinamides as Michael addition catalysts for preparation of)
IT 100-52-7, Benzaldehyde, reactions 31469-15-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(salts of perfluorinated sulfonamides or sulfinamides as aldol condensation catalysts for)
IT 35022-33-4P
RL: PNU (Preparation, unclassified); PREP (Preparation)
(salts of perfluorinated sulfonamides or sulfinamides as aldol condensation catalysts for preparation of)
IT 89183-45-9, Polyaniline hydrochloride
RL: POF (Polymer in formulation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides as dopants for)
IT 210291-18-2 210291-20-6 210291-21-7
RL: CAT (Catalyst use); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as Diels-Alder reaction catalysts)
IT 210291-16-0 210291-17-1
RL: CAT (Catalyst use); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as catalysts)
IT 79509-46-9P, Poly(1,3,4-thiadiazole-2,5-diyldithio)
RL: BYP (Byproduct); PREP (Preparation)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)
IT 210227-23-9P 210291-14-8P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)
IT 210227-17-1P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)
IT 210227-35-3P 210227-74-0P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 25038-76-0P, Norbornene homopolymer
RL: IMF (Industrial manufacture); PREP (Preparation)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 210227-28-4P
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 210227-43-3
RL: PRP (Properties)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 210227-20-6P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 210227-09-1P 210227-16-0P 210227-31-9P 210227-37-5P
210227-72-8P
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 210227-39-7P 210227-68-2P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 51-79-6, Ethyl carbamate 62-53-3, Benzenamine, reactions 74-89-5, Methylamine, reactions 78-08-0, Vinyltriethoxysilane 92-82-0, Phenazine 95-54-5, o-Phenylenediamine, reactions 96-24-2, 3-Chloro-1,2-propanediol 97-93-8, Triethylaluminum, reactions 98-16-8, 3-(Trifluoromethyl)aniline 98-61-3, 4-Iodobenzenesulfonyl chloride 102-54-5, Ferrocene 111-92-2, Dibutylamine 142-84-7, Dipropylamine 143-15-7, Dodecyl bromide 354-64-3, Pentafluoroethyl iodide 358-23-6, Trifluoromethanesulfonic anhydride 375-72-4, Perfluorobutane-1-sulfonyl fluoride 392-95-0, 2-Chloro-3,5-dinitrobenzotrifluoride 421-83-0, Trifluoromethanesulfonyl chloride 541-59-3, Maleimide 581-28-2, 2-Aminoacridine 605-65-2, 5-(Dimethylamino)-1-naphthalenesulfonyl chloride 700-16-3, Pentafluoropyridine 764-48-7, Ethylene glycol monovinyl ether 814-68-6, Acryloyl chloride 917-54-4, Methyllithium 920-66-1, 1,1,1,3,3,3-Hexafluoro-2-propanol 1070-89-9, Sodium bis(trimethylsilyl)amide 1111-78-0, Ammonium carbamate 1120-71-4, 1,3-Propane sultone 1120-99-6, 1,2,4-Triazin-3-amine 1126-79-0, Butoxybenzene 1622-32-8, 2-Chloroethanesulfonyl chloride 1633-82-5, 3-Chloropropane-1-sulfonyl chloride 1648-99-3, 2,2,2-Trifluoroethanesulfonyl chloride 2444-68-0, 9-Vinylanthracene 2495-39-8 2633-67-2, 4-Styrenesulfonyl chloride 3520-42-1, Sulforhodamine B 4286-55-9, 6-Bromo-1-hexanol 4628-94-8, Dipotassium 1,3,4-thiadiazole-2,5-dithiolate 5130-24-5, Vinyl chloroformate 5231-87-8 6553-96-4, 2,4,6-Triisopropylbenzenesulfonyl chloride 7673-09-8, Trichloromelamine 7795-95-1, 1-Octanesulfonyl chloride 9036-19-5, Igepal CA 520 10444-89-0 10531-50-7, (R)-2,2,2-Trifluoro-1-phenylethanol 13036-75-4, Fluorosulfonic anhydride 13360-57-1, Dimethylsulfamoyl chloride 13781-67-4, 3-Thiopheneethanol 20611-81-8,

Disodium cyanamide 21797-13-7 25322-68-3 27835-99-0 40724-67-2
82985-35-1, Bis[3-(trimethoxysilyl)propyl]amine 210226-82-7
210227-12-6, 3-(1,1,2,2-Tetrafluoroethoxy)benzenesulfonyl chloride
210227-69-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 421-85-2P, Trifluoromethanesulfonamide 10438-96-7P 14418-84-9P,
2-Propenesulfonyl chloride 14986-54-0P, Sulfamoyl fluoride 30334-69-1P
31795-44-5P, Sodium 5-formyl-2-furansulfonate 41804-89-1P, Potassium
trifluoromethanesulfinate 64773-40-6P, Pentafluoroethanesulfonyl
chloride 78491-70-0P 124863-24-7P 162134-09-0P 210226-81-6P,
1,2,4-Triazine-3-sulfonyl chloride 210226-83-8P 210226-84-9P
210226-85-0P 210226-86-1P 210226-87-2P 210226-88-3P 210226-89-4P
210226-91-8P 210226-93-0P 210227-24-0P 210227-38-6P 210227-58-0P
210227-71-7P 210227-73-9P 210227-76-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT 23384-11-4P, N-[3-(Trifluoromethyl)phenyl]trifluoromethanesulfonamide
35534-15-7P 51903-48-1P 152894-19-4P 210226-80-5P 210226-90-7P
210226-92-9P 210226-94-1P 210226-95-2P 210226-97-4P 210226-98-5P
210226-99-6P 210227-00-2P 210227-01-3P 210227-02-4P 210227-04-6P
210227-08-0P 210227-11-5P 210227-13-7P 210227-14-8P 210227-15-9P
210227-19-3P 210227-21-7P 210227-26-2P 210227-27-3P 210227-32-0P
210227-33-1P 210227-36-4P 210227-41-1P 210227-42-2P 210227-44-4P
210227-45-5P 210227-49-9P 210227-51-3P 210227-52-4P 210227-59-1P
210227-60-4P 210227-64-8P 210227-65-9P 210227-66-0P 210227-67-1P
210227-70-6P 210291-13-7P 210291-15-9P 210304-78-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

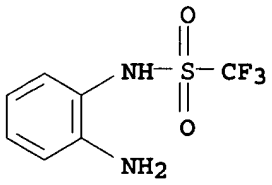
IT 421-85-2DP, Trifluoromethanesulfonamide, reaction products with
(chloromethylene)dimethylammonium chloride and poly(sodium
p-styrenesulfonate) 3724-43-4DP, (Chloromethylene)dimethylammonium
chloride, reaction products with poly(sodium p-styrenesulfonate) and
trifluoromethanesulfonamide 25704-18-1DP, Poly(sodium
p-styrenesulfonate), reaction products with (chloromethylene)dimethylammon
ium chloride and trifluoromethanesulfonamide 156118-35-3DP,
Dimethylsilanediol-methylsilanediol copolymer, reaction products with
lithiated N-(trifluoromethanesulfonyl)vinylsulfonamide 210227-05-7P
210227-06-8P 210227-07-9P 210227-10-4P 210227-29-5P 210227-46-6P
210227-47-7P 210227-50-2P 210227-55-7P 210227-57-9P 210227-62-6P
210227-63-7P 210227-79-5P 210227-81-9P **210227-82-0P**
210227-84-2P 210227-85-3DP, reaction products with di-Me, Me hydrogen
polysiloxane 210291-10-4P 210291-12-6P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

IT **210227-72-8P**
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)

RN 210227-72-8 HCAPLUS
CN Methanesulfonamide, N-(2-aminophenyl)-1,1,1-trifluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

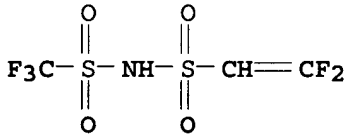
CRN 53718-45-9
CMF C7 H7 F3 N2 O2 S



IT **210227-82-0P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(salts of perfluorinated sulfonamides or sulfinamides for use as ionic **conductors** and as catalysts)
RN 210227-82-0 HCAPLUS
CN Ethenesulfonamide, 2,2-difluoro-N-[(trifluoromethyl)sulfonyl]-, lithium salt, polymer with 1,1-difluoroethene (9CI) (CA INDEX NAME)

CM 1

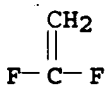
CRN 210227-15-9
CMF C3 H2 F5 N O4 S2 . Li



● Li

CM 2

CRN 75-38-7
CMF C2 H2 F2



L32 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:627049 HCAPLUS
DN 127:294058
TI Synthesis of a hexafluoropropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole
AU Selampinar, Fatma; Akbulut, Ural; Yilmaz, Tulay; Gungor, Attila; Toppare,

Levent
CS Department of Chemistry, Middle East Technical University, Ankara, 06531, Turk.
SO Journal of Polymer Science, Part A: Polymer Chemistry (1997), 35(14), 3009-3016
CODEN: JPACEC; ISSN: 0887-624X
PB Wiley
DT Journal
LA English
AB A new elec. **conducting** composite **film** from polypyrrole and 4,4'-(hexafluoroisopropylidene)-bis(phthalic anhydride)-based polyimide was prepared Pyrrole and the dopant ion can easily penetrate through the polyimide substrate and electropolymerize on the platinum (Pt) electrode due to the swelling of the polyimide on the metal electrode. The electrochem. properties of polypyrrole-polyimide (PPy/PI) composite **films** have been investigated by using cyclic voltammetry. The PPy/PI composite **film** is suitable for use as the electroactive material owing to its stable and controllable electrochem. properties. The elec. **conductivity** of composites falls in the range 0.0035-15 S/cm. Scanning electron micrograph, FTIR, and thermal studies indicate that PPy and PI form a homogeneous material rather than a simple mixture
CC 37-6 (**Plastics** Manufacture and Processing)
Section cross-reference(s): 76
ST fluoropolymer polyimide blend polypyrrole elec **cond**; electrochem **polymn** pyrrole **fluoropolymer** polyimide matrix
IT Polymerization
(electrochem.; in preparation of polypyrrole and its **conducting** polymer composites with hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide)
IT **Conducting** polymers
Electric **conductivity**
Oxidation, electrochemical
Polymer morphology
Reduction, electrochemical
(hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole)
IT Polymer blends
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole)
IT Dopants
(hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole containing)
IT Polysulfones, preparation
Polysulfones, preparation
Polysulfones, preparation
Polysulfones, preparation
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyether-polyimide-, fluorine-containing; hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole containing)
IT Fluoropolymers, preparation
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyether-polyimide-polysulfone-; hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole containing)
IT Polyimides, preparation
Polyimides, preparation

Polyimides, preparation
Polyimides, preparation
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyether-polysulfone-, fluorine-containing; hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole containing)

IT Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
Polyethers, preparation
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(polyimide-polysulfone-, fluorine-containing; hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole containing)

IT 429-42-5, Tetrabutylammonium tetrafluoroborate
RL: MOA (Modifier or additive use); USES (Uses)
(dopant; hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole)

IT 30604-81-0P, Polypyrrole **118085-79-3P** 118087-85-7P
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole)

IT 30203-11-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; synthesis of a hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole)

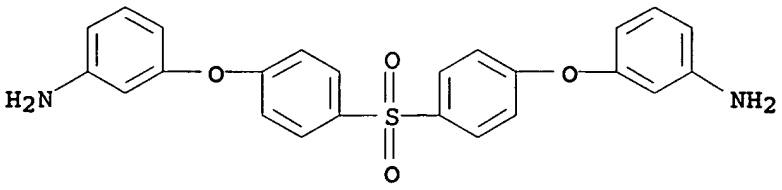
IT 80-07-9, Bis(4-chlorophenyl) sulfone 591-27-5, 3-Aminophenol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant in monomer synthesis; synthesis of a hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole)

IT **118085-79-3P**
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; USES (Uses)
(hexafluoroisopropylidene-bis(phthalic anhydride)-based polyimide and its **conducting** polymer composites with polypyrrole)

RN 118085-79-3 HCAPLUS
CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 3,3'-[sulfonylbis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

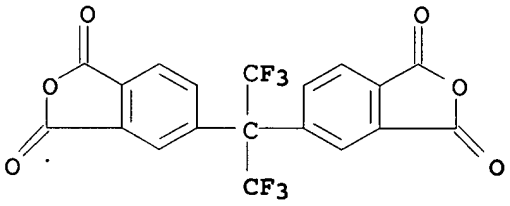
CM 1

CRN 30203-11-3
CMF C24 H20 N2 O4 S



CM 2

CRN 1107-00-2
CMF C19 H6 F6 O6



RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:666523 HCAPLUS
DN 125:288712
TI Manufacture of antistatic-layered support for silver halide photographic material having improved stability
IN Tachibana, Noriki; Kotani, Chiaki; Okamura, Shinichi; Morita, Seiwa
PA Konishiroku Photo Ind., Japan
SO Jpn. Kokai Tokkyo Koho, 56 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08201978	A2	19960809	JP 1995-8995	19950124
PRAI	JP 1995-8995		19950124		

AB The method is characterized by that the amount of exposure (product of light intensity and exposing time) received by the support between the time interval of the processes of (a) forming on the support an antistatic layer comprising a π electron-conjugated elec. **conductive** polymer (absorption maximum in 300-700 nm) and (b) coating of the Ag halide emulsion layers does not exceed 15,000 lx-h. Preferable π electron-conjugated polymers are polypyrrole, polythiophene, polyfuran, polyaniline, poly(isothianaphthene), poly-p-phenylene-vinylylene, and their derivs. and copolymers. By limiting the exposure below the above amount, the antistatic property is maintained throughout the storage period of the support, which improves the consistency of photog. property.

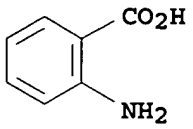
IC ICM G03C001-85
ICS G03C005-08
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): **38**, 76
ST elec **conductive** polymer antistatic photog support; polyester **film** antistatic photog support
IT Electric **conductors**, polymeric
Photographic **films**
(manufacture of antistatic-layered support for silver halide photog. material having improved stability)
IT Poly(arylenealkenylenes)
Polyamines
Polyoxyphenylenes
Polythiophenylenes
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(manufacture of antistatic-layered support for silver halide photog. material having improved stability)
IT 429-06-1, Tetraethylammonium tetrafluoroborate 429-42-5, Tetrabutylammonium tetrafluoroborate 1493-13-6, Trifluoromethanesulfonic acid 2926-30-9, Sodium trifluoromethanesulfonate 7550-35-8, Lithium bromide 7553-56-2, Iodine, uses 7647-01-0, Hydrogen chloride, uses 7664-93-9, Sulfuric acid, uses 7705-08-0, Iron trichloride, uses 7783-70-2, Antimony pentafluoride 7784-36-3, Arsenic pentafluoride 7789-21-1, **Fluorosulfuric** acid 7791-03-9, Lithium perchlorate 14075-53-7, Potassium tetrafluoroborate 14283-07-9, Lithium tetrafluoroborate
RL: MOA (Modifier or additive use); USES (Uses)
(**conductive polymer** dopant; manufacture of antistatic-layered support for silver halide photog. material having improved stability)
IT 83560-37-6, Poly(thio-1,2-ethenediyl)
RL: DEV (Device component use); USES (Uses)
(manufacture of antistatic-layered support for silver halide photog. material having improved stability)
IT 98-70-4DP, polymers with poly(arylenealkenylenes) 25190-54-9P 25233-30-1P 25233-34-5P, Polythiophene 26009-24-5DP, Poly(p-phenylenevinylene), polymers with sulfonated styrene derivs. 26498-02-2P, Poly(2,5-thiophenediyl-1,2-ethenediyl) 27073-41-2P 27082-18-4P 30604-81-0P, Polypyrrole 33411-63-1P 89761-73-9P 91201-85-3P 94750-56-8P 95831-23-5P 97126-62-0P 99742-70-8P 105935-08-8P 110847-38-6P 114267-74-2P **118337-98-7P** 121536-25-2P 122721-92-0P 132670-08-7P 162369-94-0P 162369-98-4P 162370-00-5P 165455-34-5P 181226-79-9P 181226-81-3P 181226-82-4P 181226-85-7P 181226-86-8P 181226-87-9P 181226-88-0P 182956-05-4P 182956-11-2P 182956-12-3P 182956-13-4P 182956-14-5P **182956-15-6P** 182956-19-0P 182956-23-6P 182956-25-8P 182956-28-1P
RL: DEV (Device component use); IMF (Industrial manufacture); **PREP (Preparation)**; USES (Uses)
(manufacture of antistatic-layered support for silver halide photog. material having improved stability)
IT **118337-98-7P 182956-15-6P**
RL: DEV (Device component use); IMF (Industrial manufacture); **PREP (Preparation)**; USES (Uses)
(manufacture of antistatic-layered support for silver halide photog. material having improved stability)
RN 118337-98-7 HCAPLUS
CN Benzoic acid, 2-amino-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118-92-3

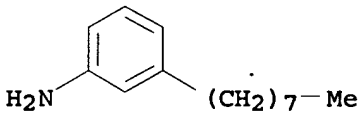
CMF C7 H7 N O2



RN 182956-15-6 HCAPLUS
CN Benzenesulfonic acid, 4-ethenyl-, polymer with 3-octylbenzenamine (9CI) (CA INDEX NAME)

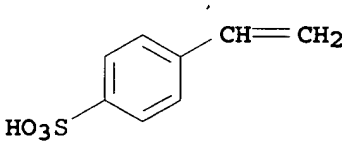
CM 1

CRN 118198-99-5
CMF C14 H23 N



CM 2

CRN 98-70-4
CMF C8 H8 O3 S



L32 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:17082 HCAPLUS
DN 122:32239
TI Electrosynthesis of **conducting polyaniline** in **aqueous** HF
AU Bhadani, S. N.; Sen Gupta, S. K.; Gupta, M. K.; Kumari, M.
CS Dep. Chem., Ranchi Univ., Ranchi, 834 008, India
SO Journal of Polymer Materials (1993), 10(2), 117-22
CODEN: JOPME8; ISSN: 0970-0838
DT Journal
LA English
AB **Polyaniline films** were synthesized on Pt sheets in **aqueous** solution of **aniline** and HF under potentiostatic conditions at +0.8 V vs SCE. The polymeric **film** synthesized at low temperature and high acid concentration exhibits high elec. **conductivities**. The cyclic voltammograms of **polyaniline** were examined in the range -0.2 V to +1.0 V vs SCE in the presence and absence of **aniline** in the **aqueous** solution of HF. Cyclic voltammetry investigations show that the polymeric **film** suffers degradation when

potential exceeds +0.8 V and below this potential it is quite stable. The mechanism for electrochem. redox reaction is suggested.
CC 35-7 (Chemistry of Synthetic High **Polymers**)
ST **polyaniline electropolymn** hydrogen **fluoride**; mechanism electropolymn **aniline**
IT Electric **conductivity** and **conduction**
(elec. **conductivity** of **polyaniline** prepared by electropolymn. in **aqueous** HF)
IT Polymerization
(mechanism of electropolymn. of **aniline** in **aqueous** HF)
IT Polyamines
RL: SPN (Synthetic preparation); PREP (Preparation)
(**aniline**-based, electrosynthesis of **conducting polyaniline** in **aqueous** HF)
IT 7664-39-3, Hydrogen fluoride, uses
RL: NUU (Other use, unclassified); USES (Uses)
(electrosynthesis of **conducting polyaniline** in **aqueous** HF)
IT 25233-30-1P, **Polyaniline**
RL: SPN (Synthetic preparation); PREP (Preparation)
(electrosynthesis of **conducting polyaniline** in **aqueous** HF)
IT 62-53-3, **Aniline**, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(mechanism of electropolymn. of **aniline** in **aqueous** HF)

L32 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1993:201166 HCAPLUS
DN 118:201166
TI Discharge and charge characteristics of **polyaniline** prepared by electropolymerization of **aniline** in nonaqueous solvent
AU Yonezawa, Susumu; Kanamura, Kiyoshi; Takehara, Zenichiro
CS Fac. Eng., Kyoto Univ., Kyoto, 606, Japan
SO Journal of the Electrochemical Society (1993), 140(3), 629-33
CODEN: JESOAN; ISSN: 0013-4651
DT Journal
LA English
AB Electroactive **polyaniline** can be prepared in nonaq. solns. (such as propylene carbonate (PC), MeCN) containing 1.0 mol dm-3 **aniline** tetrafluoroborate (ATFB). The **polyaniline** prepared in PC containing 1.0 mol dm-3 ATFB showed a high discharge capacity compared with that prepared in 2.0 mol dm-3 HBF4 **aqueous** solution containing 1.0 mol dm-3 **aniline** (pH 1) because oxidative degradation during the electropolymn. did not occur in PC containing 1.0 mol dm-3 ATFB. However, the decrease in the discharge capacity of **polyaniline** prepared in PC containing 1.0 mol dm-3 ATFB with increasing discharge current was larger than that prepared in 2.0 mol dm-3 HBF4 **aqueous** solution containing 1.0 mol dm-3 **aniline** (pH 1). From SEM observations, it can be seen that these **polyanilines** have different morphologies.
CC 72-2 (Electrochemistry)
Section cross-reference(s): **35**, **36**, 52
ST **aniline** electropolymn **polyaniline** charge discharge characteristic; battery electrode **polyaniline** charge discharge characteristic; solvent effect electropolymn **aniline**; redox reaction electrochem **polyaniline film**; **fluoroborate aniline electropolymn** nonaq soln
IT Polymer morphology
(of **polyaniline film** on platinum)
IT Solvent effect
(on electrochem. polymerization of **aniline** and on charge and

discharge characteristics)
IT Electric **conductors**, polymeric
(**polyaniline**, electrochem., preparation and charge and discharge characteristics of)
IT Cathodes
(battery, **polyaniline**)
IT Electrodes
(battery, **polyaniline**, characteristics of)
IT Polymerization
(electrochem., of **aniline** on platinum in nonaq. solns. and of **aniline** tetrafluoroborate on platinum in acetonitrile and in propylene carbonate)
IT Redox reaction
(electrochem., of **polyaniline film** on platinum)
IT 108-32-7, Propylene carbonate
RL: PRP (Properties)
(discharge capacity of **polyaniline** electrode prepared in various electrolytes in lithium tetrafluoroborate-containing)
IT 14283-07-9, Lithium tetrafluoroborate(1-)
RL: PRP (Properties)
(discharge capacity of **polyaniline** electrode prepared in various electrolytes in propylene carbonate containing)
IT 16872-11-0, Hydrogen tetrafluoroborate(1-)
RL: PRP (Properties)
(electrochem. polymerization of **aniline** on platinum in **aqueous** solution containing **aniline** and)
IT 3796-29-0, **Aniline** tetrafluoroborate(1-)
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrochem. polymerization of, on platinum in acetonitrile and in propylene carbonate, charge-discharge characteristics of **polyaniline** electrode in relation to)
IT 25233-30-1, **Polyaniline**
RL: PRP (Properties)
(electrochem. preparation and discharge and charge characteristics of electrodes of)
IT 7440-06-4, Platinum, uses
RL: USES (Uses)
(electrode, polymerization of **aniline** on, in **aqueous** and nonaq. solns.)
IT 62-53-3, **Aniline**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymerization of, electrochem., in **aqueous aniline** and tetrafluoroboric acid solns.)

L32 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:155779 HCAPLUS
DN 110:155779
TI Manufacture of electrically **conductive** polymer **compositions**
IN Sakai, Toshiyuki; Kobayashi, Masao
PA Showa Denko K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 63215772	A2	19880908	JP 1987-47776	19870304

JP 06078493 B4 19941005
PRAI JP 1987-47776 19870304
AB Title compns. are manufactured by polymerizing monomers capable of forming anionic polymer electrolytes in the presence of polymers of conjugated π-electron structure. The compns. are dispersions of the anionic polymer electrolytes in the polyconjugated polymers and maintain elec. **conductivity** over a prolonged period of time. Thus, isothianaphthene was electrochem. polymerized in MeCN containing Ph4PCl to form polyisothianaphthene (I) on an In oxide-Sn oxide-coated glass electrode; I was dedoped and freed from the electrolyte, immersed in an **aqueous** solution of vinylsulfuric acid (II), ultrasonically treated to obtain a uniform dispersion of II in I, taken out, and irradiated with long-wave UV in air for 5 min. The electrode containing a **composition** of I and poly(vinylsulfuric acid) was kept at +0.5 V for 1 min in MeCN containing Et4NClO4 with a Pt plate as opposing electrode and Ag/Ag+ as reference electrode to give a transparent, homogeneous polymer **composition**, which remained transparent when freed from the electrolyte, dried in vacuo, and stored in air for 50 days.
IC ICM C08L101-00
ICS C08F002-44
CC 38-3 (**Plastics** Fabrication and Uses)
Section cross-reference(s): **37**, 76
ST polyconjugated polymer anionic polymer blend; elec **conductive** polymer **compn**; polyisothianaphthene elec **cond**
IT Electric **conductors**
(blends of polyconjugated polymers and anionic polymer electrolytes, manufacture of)
IT Polyphosphoric acids
RL: USES (Uses)
(blends with conjugated polymers, elec. **conductive**, manufacture of)
IT Fluoropolymers
RL: PREP (Preparation)
(carboxy-containing, blends with polyconjugated polymers, elec. **conductive**, manufacture of)
IT Sulfonic acids, **polymers**
RL: USES (Uses)
(**fluoro**, **polymers**, blends with polyconjugated polymers, elec. **conductive**, manufacture of)
IT Fluoropolymers
RL: PREP (Preparation)
(sulfo-containing, blends with polyconjugated polymers, elec. **conductive**, manufacture of)
IT 25067-58-7P, Polyacetylene 25190-62-9P, Poly(p-phenylene) 25233-30-1P, **Polyaniline** 25233-34-5P, Polythiophene 30604-81-0P, Polypyrrole 91201-85-3P, Poly(isothianaphthene)
RL: PREP (Preparation)
(blends with anionic polymer electrolytes, elec. **conductive**, manufacture of)
IT 9003-01-4P, Acrylic acid homopolymer 25087-26-7P, Methacrylic acid homopolymer 25191-25-7P 25513-46-6P, Glutamic acid homopolymer 25608-40-6P, Aspartic acid homopolymer 26101-52-0P, Vinylsulfonic acid homopolymer 50851-57-5P 119959-66-9P
RL: PREP (Preparation)
(blends with polyconjugated polymers, elec. **conductive**, manufacture of)

L32 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:11095 HCAPLUS

DN 110:11095
TI Secondary nonaqueous battery
IN Toyosawa, Shinichi; Kijima, Shigeru; Daifuku, Hideharu; Maeda, Yuko; Arai, Katsuhiko; Kawagoe, Takahiro
PA Bridgestone Corp., Japan
SO Ger. Offen., 15 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3808985	A1	19880929	DE 1988-3808985	19880317
	JP 63230706	A2	19880927	JP 1987-64995	19870318
	JP 63258936	A2	19881026	JP 1987-93962	19870416
	JP 63289765	A2	19881128	JP 1987-124921	19870521
	JP 63289766	A2	19881128	JP 1987-124922	19870521
	FR 2612695	A1	19880923	FR 1988-3459	19880317
	US 4906538	A	19900306	US 1988-169881	19880318
	US 4904553	A	19900227	US 1988-211059	19880624
PRAI	JP 1987-64995	A	19870318		
	JP 1987-93962	A	19870416		
	JP 1987-124921	A	19870521		
	JP 1987-124922	A	19870521		
	JP 1987-164968	A	19870701		
	JP 1987-238168	A	19870922		
	JP 1987-249146	A	19871002		
	JP 1987-292391	A	19871119		
	JP 1987-306715	A	19871203		
	JP 1988-29707	A	19880210		
	US 1988-169881	A2	19880318		

AB The battery has a cathode of **polyaniline** containing 15-30 weight% BF_4^-, an Al-(25-65 atomic%) Li alloy anode, and an electrolyte of >1 to 3M $LiBF_4$ in a $MeOC_2H_4OMe$-(35-65 volume%) propylene carbonate mixture The **polyaniline** is prepared by electrolytic polymerization using a stainless steel electrode and a segmented counterelectrode. The **polyaniline film** is purified by flowing **H2O** or an organic solvent through the **film** in its thickness direction. The extract obtained by extracting 1 g **polyaniline** with 200 mL **H2O** has an equilibrium pH value of 2.4-4. A button-type battery of the invention had a capacity of 4.9 mA-h and retained 86% of its initial capacity after 1-wk storage at 60° vs. 2.7 mA-h and 76% and 3.0 mA-h and 62% for batteries having **polyaniline** cathodes containing 14 and 36 weight% BF_4^-, resp.

IC ICM H01M004-60
ICS H01M006-14
ICA C08L079-00; C08G073-00; C25B003-10
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): **38**
ST lithium **polyaniline** nonaq battery; fluoroborate **polyaniline** battery cathode
IT Electric **conductors**
(**polymeric, fluoroborate**-containing **polyaniline**, for secondary lithium batteries)
IT Batteries, secondary
(button-type, aluminum lithium alloy-**polyaniline**, with nonaq. electrolyte, containing fluoroborate for high-cycle and storage-life)
IT 12615-39-3 117937-69-6, Aluminum 45-75, lithium 25-65 (atomic)
RL: USES (Uses)
(anodes, in nonaq.-electrolyte batteries with fluoroborate-containing **polyaniline** cathodes)

IT 25233-30-1P, **Polyaniline**
RL: PREP (Preparation)
(fluoroborate-containing, cathodes, manufacture of, for high-cycle and storage-life nonaq. batteries)
IT 14874-70-5
RL: USES (Uses)
(**polyaniline** containing, cathodes, manuf of, for high-cycle and storage-life nonaq. batteries)

L32 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1988:7040 HCAPLUS
DN 108:7040
TI Dopants for electrically **conductive** polymers
IN Iwata, Kaoru; Hagiwara, Tsuneo
PA Agency of Industrial Sciences and Technology, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62119237	A2	19870530	JP 1985-258770	19851120
	JP 01038808	B4	19890816		
PRAI	JP 1985-258770		19851120		

AB The sulfonates RF2(CF2)mSO3- (R = H, F; m = 3-20) are dopants for elec. **conductive**, organic polymers. Thus, 200 mL propylene carbonate 0.06M in pyrrole and 0.1M in C8F17SO3- Et4N+ and 2 mL **water** were placed in a cell with a Pt anode and Cu cathode and electrolyzed for 26 h at c.d. 5 mA and -20° to give a black, 30-μ **film** with elec. **conductivity** 62 S/cm, containing 21 mol% dopant.
IC ICM C08K005-42
ICS C08G061-12; C08G073-00
ICA H01B001-12
CC 37-6 (**Plastics** Manufacture and Processing)
Section cross-reference(s): 76
ST **fluoroalkanesulfonate** dopant **conductive polymer**; pyrrole polymer elec **conductive** doping; doping polymer elec **conductor**; sulfonate perfluoroalkane doping polymer; perfluorooctanesulfonate doping polymer
IT Electric **conductors**
(organic **polymers** doped with **fluoroalkanesulfonates** as)
IT Sulfonic acids, uses and miscellaneous
RL: USES (Uses)
(alkane, perfluoro, doping agents for elec. **conductive** polymers)
IT 1763-23-1, n-Perfluorooctanesulfonic acid 56773-42-3, Tetraethylammonium n-perfluorooctanesulfonate 60453-92-1 111831-41-5 111864-24-5 111873-33-7
RL: USES (Uses)
(dopant, for elec. **conductive** organic polymers)
IT 25233-30-1, **Polyaniline** 30604-81-0, Polypyrrole 84928-92-7, Poly(3-methylthiophene)
RL: USES (Uses)
(elec. **conductive**, doping of, with perfluoroalkanesulfonates)

L32 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1987:139428 HCAPLUS
DN 106:139428

TI Treatment of polymer products
IN Ozawa, Shuji; Hagiwara, Tsuneo; Iwata, Kaoru
PA Teijin Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61123637	A2	19860611	JP 1984-243409	19841120
PRAI	JP 1984-243409		19841120		

AB Polymer products containing oxidizing agents are treated with organic low-mol. weight compds. which form **conductive** polymers by oxidative polymerization, to give elec. **conductive** polymer products. Thus, PVC **film** containing 50 phr FeCl3 was soaked 5 h in 0.1 M **aqueous** pyrrole, washed, and dried to give a black flexible **film** containing 12.0% polypyrrole and showing **conductivity** 1.5 + 10-1 S/cm, vs. ≤10-12 S/cm for PVC.
IC ICM C08J007-12
ICS C08G061-00; H01B001-12
CC 38-3 (**Plastics** Fabrication and Uses)
Section cross-reference(s): 42, 76
ST elec **cond** polymer **film**; PVC **film** polypyrrole
elec **conductive**
IT Polymers, uses and miscellaneous
RL: USES (Uses)
(oxidant-containing, elec. **conductive** polymer formation on, by contacting with pyrrole or thiophene or **aniline** derivs.)
IT Oxidizing agents
(plastics containing, elec. **conductive** polymer formation on, by contacting with pyrrole or thiophene or **aniline** derivs.)
IT Electric **conductors**
(polymers, formation of, on plastic products containing oxidizing agents, by contacting with monomer)
IT **Films**
(elec. **conductive**, formation of, on plastic products containing oxidizing agents, by contacting with monomers)
IT Electric **conductors**
(**films**, formation of, on plastic products containing oxidizing agents, by contacting with monomers)
IT Polymerization
(oxidative, of pyrrole of thiophene or **aniline** derivs., elec. **conductive** polymers formation by, on plastic products)
IT 79-10-7D, Acrylic acid, esters, polymers 9002-85-1, Poly(vinylidene chloride) 9002-86-2, PVC 9002-89-5, Poly(vinyl alcohol) 9003-17-2, Polybutadiene 9003-53-6, Polystyrene 9003-56-9, ABS 24981-14-4, Vinyl **fluoride polymer**
RL: USES (Uses)
(oxidant-containing, elec. **conductive** polymer formation on, by contacting with pyrrole or thiophene or **aniline** derivs.)
IT 84-65-1, Anthraquinone 106-51-4, p-Benzoquinone, uses and miscellaneous 118-75-2, uses and miscellaneous 130-15-4 7705-08-0, Ferric chloride, uses and miscellaneous 13537-24-1, Ferric perchlorate
RL: USES (Uses)
(plastics containing elec **conductive** polymer formation on, by contacting with pyrrole or thiophene or **aniline** derivs.)
IT 7681-11-0, uses and miscellaneous
RL: USES (Uses)
(plastics containing with iodine, elec. **conductive** polymer

formation on, by contacting with pyrrole of thiophene or **aniline** derivs.)

IT 7553-56-2, Iodine, uses and miscellaneous
RL: USES (Uses)
(plastics containing, with potassium iodide, elec. **conductive** formation on, by contacting with pyrrole or thiophene or **aniline** derivs.)

IT 25233-30-1P, **Polyaniline** 30604-81-0P, Polypyrrole 72945-66-5P, Poly(N-methylpyrrole 79134-59-1P 79799-71-6P, Poly(N-phenylpyrrole) 84928-92-7P, Poly(3-methylthiophene) 87106-17-0P, Poly(3,4-dimethylpyrrole) 104318-58-3P, Poly(m-toluidine)
RL: PREP (Preparation)
(preparation of **conductive**, on plastic products containing oxidizing agents)

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